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# Internationalization, Globalization, and Capability-Based Strategy

Stephen Tallman  
Karin Fladmoe-Lindquist

**G**lobalization is often presented as the strategic effort to treat the world, or a significant part of it, as a single market in which to do business. However, it is also potentially a single research and development laboratory, a single production center, a single logistics network, and a single headquarters site. For example, many of the major pharmaceutical firms, such as Merck or Johnson & Johnson, conduct major research in numerous research facilities located around the globe, and the international networking of these firms in research, production, and marketing have placed most of their activities into global contexts. If we look at the potential for competitive advantage through globalization from a strategic perspective, all of the value-adding activities of a business, not just the delivery of the product to the customer, may benefit dramatically from a “one-world” view. From this perspective, the world becomes an important source for new knowledge as well as new markets.

Traditional market-focused models of multinational strategy may be inadequate to represent the activities of the firm in the global arena. Newer models of strategy driven by the search for sustained competitive advantage derived from the internal knowledge resources or capabilities of the firm rather than from its market position offer advantages in understanding strategy and structure among global firms. Strategists believe that sustained competitive advantage is found in the strategic resources of the firm, specifically in both the organizational knowledge and the capabilities of the firm. Capability-based frameworks have been found to have much power as general models of strategy and organization.<sup>1</sup> However, their application to multinational firms and their strategies has been limited.<sup>2</sup> This article integrates the various findings of recent empirical and conceptual studies of capability development in multinational firms (and their subsidiaries) with traditional approaches to foreign direct investment, licensing,

and exports that focus primarily on market-oriented strategies. The resulting framework is a useful guide to both academics and managers interested in global strategy.

A concise example of the gap that needs to be bridged can be seen in two now-classic articles by Gary Hamel and C.K. Prahalad. The first proclaims that competitive advantage accrues to those multinational firms that have been able to extend their product lines into open market niches in foreign markets, take advantage of global economies and opportunities to tie markets together through cross-subsidies, and then extend their product lines globally.<sup>3</sup> The later article explains that competitive advantage is the consequence of holding and combining unique resources and capabilities and creating a strategic architecture that can apply the resulting core capabilities across product and business lines.<sup>4</sup> While their examples in the latter case include companies from around the world, they do not make an explicit connection to their earlier work on multinational strategy processes. If we reconsider the multinational story in the light of these new organizational capability-driven models, then we will be able to improve our understanding of the drivers of competitive advantage in global markets.

The framework presented here shows how multinational firms can gain sustained competitive advantage in the global marketplace by basing their strategies on building and leveraging their unique internal capabilities. The “dynamic capabilities” perspective presents an explicit argument for the importance to sustainable competitive advantage of both exploiting current capabilities and developing new capabilities.<sup>5</sup> Applied to the activities of multinational firms, this perspective considers the different ways in which international market expansion and global integration of operations work to enhance long-term performance. It also reveals why multinational firms might *not* be successful in all cases, as various combinations of capabilities and environments might require particular strategies and organizations for success.

## Capability-Driven Strategies and the Global Firm

The major current models of the multinational firm<sup>6</sup> might be described as *capability-recognizing* in that they assume multinational firms possess some unique knowledge-based resources. These resources typically are treated as home-country based and fixed over time for any multinational firm. The multinational firm’s international strategies then are determined either by external industry conditions or by internal demands for efficiency. These models recognize that the firm may engage in resource-seeking strategies, but these are targeted at acquiring local complementary resources for market entry or at accessing location-bound natural or technological resources.<sup>7</sup> A few newer models have addressed the possibilities of foreign national units taking a major strategic role within the multinational firm, whether from the corporate perspective<sup>8</sup> or from the national subsidiary point of view.<sup>9</sup> These models, though, focus on specific aspects of the subsidiary role rather than on an overall theory

of multinational strategy based on resource and capability opportunities and needs.

On the other hand, our *capability-driven* framework of the multinational firm considers the firm's attempts to build, protect, and exploit a set of unique capabilities and resources as the key factors that determine performance levels and the key forces that drive firms into international and global strategies. Our focus is on how firms can create new value for themselves to increase their long-term profitability, rather than on how to divide markets and share profits among a group of undifferentiated, static companies.<sup>10</sup> The framework provides explicit mechanisms that drive international expansion and integration and that build and leverage capabilities. The model begins by defining component or business-level capabilities and architectural or corporate-level capabilities as sources of competitive advantage (see Figure 1). These firm-specific complex resources are built and leveraged for long-term success in worldwide markets through strategies of international expansion and global integration.

### ***Capabilities and Knowledge in the Global Firm***

Capability-based and related strategy frameworks suggest that the competitive advantage of firms results from their possession of unique internal resources and capabilities and their ability to apply these resources in the marketplace to earn superior profits.<sup>11</sup> From this perspective, the multinational firm gains advantage internationally if it possesses unique resources that can be leveraged in foreign markets. Further, the multinational firm will sustain its competitive advantage only if it can continue to develop new capabilities in the face of changing environments and evolving competition. Two general types of resource-related capabilities in multinational firms are particularly relevant to internationalization of strategy: business-level component capabilities and corporate-level architectural capabilities.

#### ***Business-Level Component Capabilities***

This type of capability relates to the competitive advantage of the firm in its business area or areas and includes its ability to produce better products,

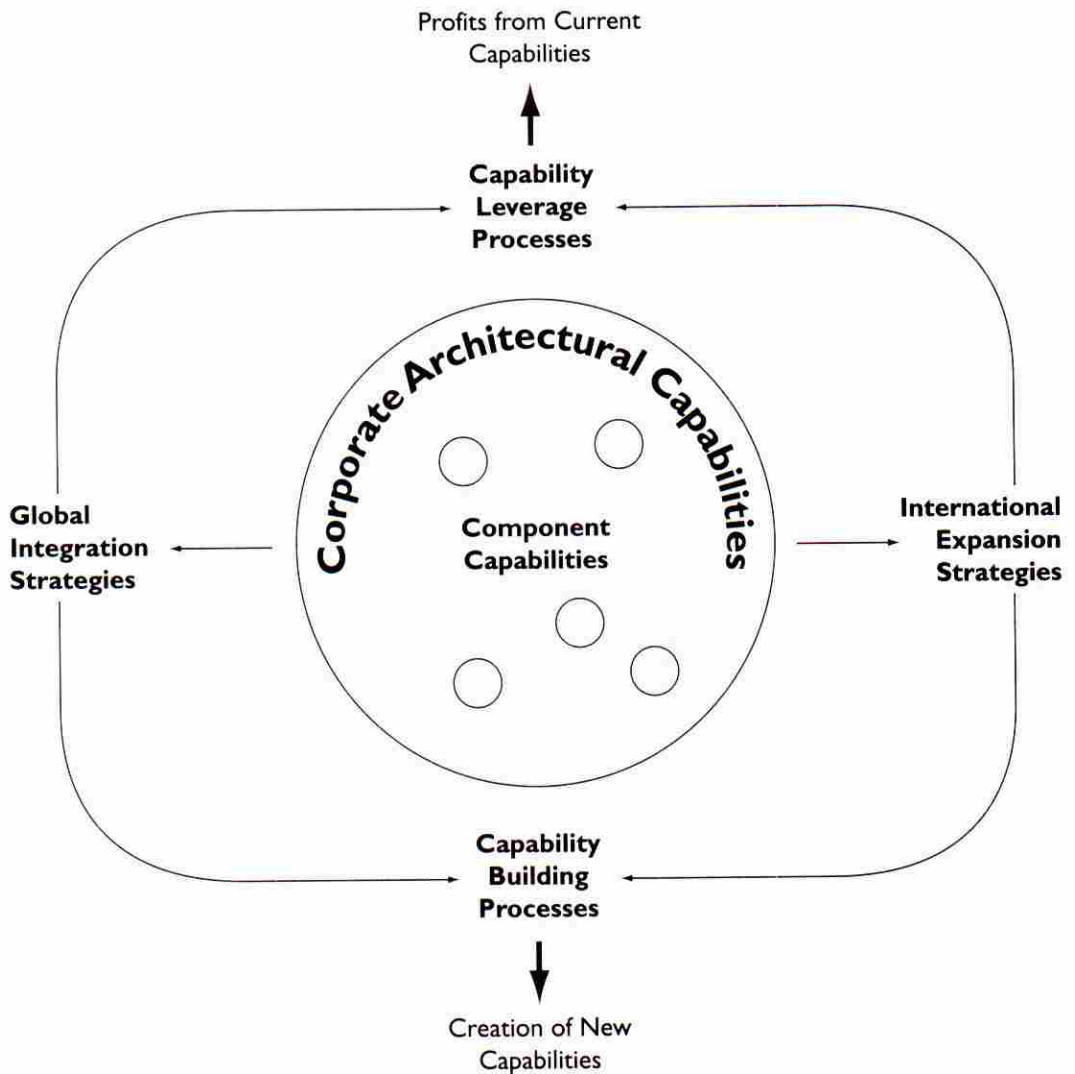
devise superior processes, and generate more effective marketing. These "doing business" concerns have been described as competencies, capabilities, or skills, depending on the level of specificity.<sup>12</sup> Such capabilities are defined by the idea of "component knowledge."<sup>13</sup> The components of a business's knowledge involve the various complex but identifiable skills and activities needed to operate the business and consti-

tute the bundles of strategic resources and capabilities that are unique to the firm.<sup>14</sup> Component capabilities go beyond the realm of pure knowledge to include the broader set of actions and structures that are critical to competitive

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**FIGURE 1.** Capabilities and Multinational Strategy



advantage and to multinational strategy. For example, 3M is widely viewed as having strong routines and capabilities for remaining innovative in a wide variety of products and businesses. From the perspective of the multinational corporation, its business-level component capabilities would be the larger, but still identifiable, skills of its business units.<sup>15</sup>

*Corporate-Level Architectural Capabilities*

Architectural capabilities are defined as organization-wide routines for integrating the components of the organization to productive purposes.<sup>16</sup> They are the sources of the organizational synergies at the core of the firm.<sup>17</sup> In the

multinational corporation, architectural capabilities involve identifying, replicating, integrating, and otherwise managing hard assets and business-level component capabilities effectively and efficiently. These capabilities are developed in the process of operating the firm, so they are strictly firm-specific and tied closely to the administrative history of the firm. Wal-Mart is widely regarded as a firm that has superior architectural capabilities. It has managed to grow from a small firm in Arkansas to the position of global retailer based on its abilities to coordinate and integrate its (equally strong) component capabilities. Internationally, Wal-Mart did have some initial difficulties in its entry into some South American markets, however, its strong architectural capabilities allowed it to revise and adjust its local strategies rapidly. McDonald's is another example of a firm that has been able to develop an extensive global empire based on capabilities for identifying, replicating, integrating, and managing assets globally.

Corporate-level architectural capabilities allow the incorporation of new, even foreign-based, assets and capabilities while maintaining efficient management. At the same time, architectural knowledge coordinates the employment of pieces of component knowledge in ways that are newly effective—truly adding value, not just preventing its erosion. These capabilities relate to the ability of the firm to organize so as to function competitively in different contexts and apply its component capabilities in ways that successfully attain the firm's goals. This "macro-level" organizational knowledge<sup>18</sup> is not simply a way to reduce opportunistic risk through less costly governance of transactions, but enhances the profit potential of the firm's component capabilities. Because these resources involve structures and action as well as know-how and understanding, we characterize them as architectural capabilities, not as pure knowledge.

### ***Capability Processes and Competitive Advantage in Multinational Firms***

The two key processes of capability leverage and capability building provide the essential mechanisms to drive a capability-based strategy.<sup>19</sup> A capability-driven strategy is fueled by the leverage or exploitation of its current capabilities and resources to earn superior profits, and it is maintained into the future through the continuous building or development of new competitive resources and capabilities as investments in future profits. Although leverage and building processes commonly are associated with market-seeking and asset-seeking strategies tied to real resources, their real benefits for sustained advantage arise when they are addressed to complex knowledge resources—i.e., to capabilities.

#### ***Capability Leverage***

Capability leverage processes are those efforts the firm makes to gain competitive advantage (and superior profits) from the exploitation of its existing capabilities in the marketplace. Leveraging capabilities developed in the home market, or in previous international forays, is of great importance to the multinational firm. Even in a globalizing world, most firms move initially into foreign markets on the strength of apparent competitive advantage based on business-

level component capabilities from the home market. All firms rely on their existing capabilities to gain the profits needed to provide returns to investors, to pay for further expansion, and to finance new assets and capabilities. Multinationals simply pursue these same leverage objectives across borders. As Kogut and Zander note, “the primary explanation for direct investment is the possession of...superior capabilities...responsible for the growth of the firm across international borders.”<sup>20</sup> Ferdows’s framework of the strategic roles of foreign factories reflects this capability leverage concept.<sup>21</sup> Factory types such as Offshore, Outpost, and Server—with their need for lower site competencies and transfer of home-country skills—are examples of multinational firms’ efforts to exploit existing capabilities.

The leverage concept is most easily understood with respect to business-level component capabilities. Returns on investments in the combinations of resources and skills involved in business capabilities improve if the cost base established for the domestic market can be exploited in the broader international marketplace. Products and processes, brand names, marketing schemes, advertising programs, and other business-related resources and skills often can be leveraged across borders with minimal changes—enough to fit the local context, but not typically so much as to change the basic capability.<sup>22</sup> Coca-Cola has been a classic example of a firm that excels at capability leverage. Traditionally, Coca-Cola took pride in its one world approach to its products and its marketing schemes, with some minor local adaptation. Interestingly, the most recent changes in the corporate approach to global systems allow much more local decision making on new product development along with very locally oriented advertising and marketing campaigns. Whether the company can maintain its success with this new strategy remains an open question today.

Leveraging corporate-level architectural capabilities and appropriating their value added can drive international expansion as well.<sup>23</sup> Resource-based models place great emphasis on managerial capabilities for organizing component knowledge into profit-generating bundles as drivers of firm expansion. New models of technological development in multinational firms treat architectural capabilities as essential to the coordination of technological efforts across boundaries. Architectural knowledge gained in managing multi-business domestic corporations can be extended to managing multi-country operations in international markets more effectively.<sup>24</sup> In addition, corporate-level architectural capabilities appear likely to enhance the value of leveraging component knowledge by improving efficiency and effectiveness in sharing technical or other business-specific knowledge.<sup>25</sup>

### *Capability Building*

If leveraging capabilities in the marketplace is to continue generating competitive advantage and superior profits over time, new capabilities must be created as old ones are compromised. Building capabilities and developing resources must continue for the life of the firm. While capability-building strategies are not directly addressed by most models of the multinational firm,

multinationals cannot rely solely on home-country-derived capabilities to operate global networks.<sup>26</sup> A focus on “the world as a single market” marginalizes new technical and managerial knowledge to the role of overcoming “the liability of foreignness,” making the application of “real knowledge” from the home market more efficient in earning new profits from old capabilities. Capability building has been treated as an outcome of home-country conditions of competition, factor availability, and consumption.<sup>27</sup> The multinational is assumed to be able to carry its strategic resources and capabilities into international markets, but not to be overly concerned with creating them “out there.”

However, both business-level and corporate-level capabilities are subject to improvement, discovery, re-creation, or innovation through global learning. Forward-looking firms are finding that no region or country has a monopoly on business-level component capabilities and firms that actively seek the latest resources and skills from around the world can build superior component knowledge. Strategy analysts have shown technological and business skills can be developed through international diversification into multiple markets<sup>28</sup> and by emphasizing strategic leadership roles for national subsidiaries.<sup>29</sup> Porter<sup>30</sup> and others find that the ability of multinational firms to access foreign-based clusters of excellence is a clear source of advantage in gaining component knowledge-based advantage. Combined with complementary resources based in their home countries, such technical know-how may have profit-earning potential in excess of what the local members of the regional cluster can generate. The development of foreign manufacturing facilities to take advantage of high levels of local site competencies is a key step in this process. Hewlett-Packard's effort to upgrade its Singapore operations is a good example of the capability-building process. The factory began as a simple production facility for basic calculators and is now responsible for all aspects, including basic design, of portable printers.<sup>31</sup> This process reflects the historical process of asset-seeking foreign direct investment, but with a focus on business-related knowledge, rather than natural resources or other location-bound hard assets. The entire image of the national subsidiary as a simple conduit for home-country-based knowledge is being reworked in favor of one as potential strategic site and source of new capabilities.

Corporate-level architectural capabilities must also undergo a process of capability building. Companies may learn new ways of organizing, rewarding, and communicating in foreign or international markets. A more important influence, though, seems to be the need to create new internal systems as the strict relationships of hierarchies prove unable to handle the complex, changing environment characteristic of global businesses. The architectural knowledge needed to identify, leverage, and build new component capabilities requires a level of managerial sophistication that moves the firm toward real globalization—seeing one world, not just one world market. ABB, for example, had to develop entirely new internal processes for coordinating its global businesses during its transformation, including strategic human resource policies, accounting systems, and the creation of a new organizational culture.<sup>32</sup>



## ***Multinational Strategies and Capability Processes***

Component and architectural capabilities lead to both international expansion and global integration in the process of building and leveraging capabilities. International expansion (*internationalization*) refers to a strategy of greater presence in international locations. Global integration (*globalization*) involves a strategy of consolidating international markets and operations into a single worldwide strategic entity. Most existing models of international expansion and consolidation are driven by industry characteristics.<sup>33</sup> However, in resource-based strategic models, industry characteristics are treated as the consolidated outcome of multiple firm-level decisions in an environment consisting of other firms, suppliers, and customers, not of a pre-existing competitive landscape. Thus, while the overall competitive conditions of an industry may influence multinational strategy decisions, capability-based models suggest that individual firms respond successfully to industry pressures only within their own set of capabilities.

### *International Expansion*

The process of building an operational presence in foreign locations is the primary concern of traditional market power and internalization models of the multinational firm.<sup>34</sup> Early models that focused on large multinational firms viewed the market power of the large multinational as a means of gaining advantage. They treated increasing internationalization as a way to leverage existing power, to gain new market power by increasing size, and to exploit existing power in a wider market.<sup>35</sup> As an alternative, internalization models suggested that international activities, once brought under the management of the firm, would provide the most efficient means of extending existing knowledge resources to overseas markets.<sup>36</sup> With an efficient transmission mechanism, international expansion provided increasing economies of scope in applying the unique private capabilities of the firm.<sup>37</sup> The newer international diversification literature takes a capability-based approach by which firms can appropriate additional profits through operations in multiple national markets.<sup>38</sup>

In the area of capability building, firms can tap competitive clusters in other countries either through acquisition of or alliance with a cluster member or through a start-up in a highly advantaged region (as was done, for instance, by Motorola Semiconductor as it developed “smartcard” technology in France). Multinationals are no longer doomed to possess only technical competitive advantages developed back in the home market, but can uncover and incorporate new component capabilities from abroad. These new and traditional approaches to the multinational firm suggest that existing capabilities can be leveraged and enhanced through greater international presence. Most resource and capability building through increased international market scope must derive from access to new component knowledge—firms can access strategic know-how as well as complementary skills, but it still most often has to do with improving in a particular business or business activity. Corporate-level architectural knowledge is more likely to be tied to managing market integration.

### *Global Integration*

Globalization is the managerial process of integrating worldwide activities into a single world strategy by managing a network of differentiated but integrated subsidiaries, affiliates, alliances, and associations. Porter<sup>39</sup> and Doz<sup>40</sup> treat globalization of strategy as a response to industry pressures toward ever increasing efficiency through economies of scale and scope. However, researchers have begun to move away from treating industry as the single driver of multinational strategy and toward identifying internal processes critical to the development of transnational (global) competitive advantage in many industries. In Bartlett and Ghoshal's Transnational Model, with its focus on the firm rather than the industry, globalization leads to integrating strategic demands for worldwide efficiency, local market responsiveness, and world-class technology across all national markets.<sup>41</sup> The Transnational Model also addresses the need for an organizational structure that is capable of controlling this integration without losing the unique qualities of the individual firm. Capability-based models show that advantage comes to the global firm that is able to decentralize operational responsibilities to differentiated subsidiaries while supporting strong integration among all affiliates.<sup>42</sup> This process dramatically reduces the "command and control" role of the corporate center in favor of "coordination and coaching." Clearly, there has been an evolution of thinking about multinational firms from an industry-driven set of similar organizations to a resource- or capability-type model in which unique heritage and idiosyncratic capabilities are reflected in firms facing similar market demands but meeting these with individual responses.

Leverage of capabilities is assisted by coordinating activities across multiple markets.<sup>43</sup> Global flexibility, arbitrage possibilities, and cost optimization are all improved if the firm has integrated its activities and its decision-making apparatus. In a multi-market but not integrated company, new component knowledge is likely to stay in the country where it develops. An integrated global architecture, on the other hand, can spread new technical capabilities throughout the worldwide firm, exploiting new assets while they are still unique. Research into international knowledge flows<sup>44</sup> shows that cross-border movement of knowledge, especially tacit knowledge, is possible but not easy, and it is significantly assisted by formal and informal corporate mechanisms for integration. Building architectural capabilities through integration may come from internal synergies in re-bundling business-level component knowledge and complementary assets from various units of the company. It also may come from improved architectural knowledge of how to find such opportunities. "Global network" type firms, such as Hewlett-Packard or DuPont, add value by stimulating the exchange and recombination of resources in such a way that new capabilities are incorporated into the fabric of the network—effectively generating profits from architectural knowledge. The process of creating architectural knowledge regarding efficient and effective operations in an integrated global organization must be understood as an idiosyncratic process tied closely to the historical order of events and decisions in the firm. Understanding these aspects of the modern multinational firm requires an explicitly capability-driven strategic approach.

**TABLE I.** Contingent Strategies of Multinational Firms

	Leverage Processes		Building Processes	
	Intl. Expansion	Global Integration	Intl. Expansion	Global Integration
<b>Business-Level Component Capabilities</b>	<ul style="list-style-type: none"> <li>• Global product divisions</li> <li>• Export strategies using global production platforms</li> <li>• Local skills used in sales and marketing</li> <li>• Internal trade of final goods mostly one direction from parent to subsidiary</li> </ul>	<ul style="list-style-type: none"> <li>• Home-based global product divisions</li> <li>• High levels of two way internal trade of intermediate goods between parent and subsidiaries</li> </ul>	<ul style="list-style-type: none"> <li>• Frequent use of MN—local joint ventures</li> <li>• Acquisition of local firms with unique capabilities in foreign regional clusters</li> </ul>	<ul style="list-style-type: none"> <li>• Heavy use of strategic alliances with other MNEs</li> <li>• World-wide internal joint ventures and alliances</li> </ul>
<b>Corporate-Level Architectural Capabilities</b>	<ul style="list-style-type: none"> <li>• Geographically based organization and multi-local approaches</li> <li>• Expansion primarily through greenfield and wholly-owned subsidiaries</li> <li>• Replication of home-country corporate systems</li> </ul>	<ul style="list-style-type: none"> <li>• World-wide functional and product divisions</li> <li>• Foreign-based product divisions</li> <li>• Extensive financial cross-subsidy</li> <li>• Considerable direct inter-subsidiary trade</li> </ul>	<ul style="list-style-type: none"> <li>• Merger with or acquisition of other multinational firms or their subsidiaries and management as new independent business units</li> <li>• Holding company</li> </ul>	<ul style="list-style-type: none"> <li>• Use of differentiated network organization</li> <li>• Highly decentralized and geographically dispersed operations</li> <li>• Multiple strategic leader subsidiaries</li> </ul>

### Capability Strategies and Multinational Competition: Implications and Practice

Successful organizational structure, systems, cultures, and other manifested characteristics are contingent on the interaction of the different aspects of capabilities and strategy. Our framework considers capability types, capability processes, and international strategies and suggests the contingent consequences of these forces on observable organizational characteristics. This section provides a model specifying possible organizational responses of multinational firms to the strategic pressures of component versus architectural capabilities, leveraging versus building capability processes, and expansion versus integration-oriented multinational strategies. The model is formalized with a set of propositions that are tied to the contingency framework as shown in Table 1.

### ***Leverage Strategies and the Multinational Firm***

Leverage strategies are at the core of most existing models of the multinational firm.<sup>45</sup> Internalization models assume that firms have useful component knowledge and examine the most efficient means of exploiting these capabilities in international markets, looking to efficient architecture to minimize the cost of this leverage.<sup>46</sup> On the other hand, market power models treat the exploitation of architectural capabilities as a direct source of advantage for multinational firms in foreign markets.<sup>47</sup>

From a capability-driven perspective, leverage concerns have specific identifiable consequences for the multinational firm as it devises its strategy, whether involving business-level components or corporate-level architectural capabilities. First, leverage implies static sources of advantage.<sup>48</sup> International markets represent opportunities to further leverage assets and capabilities that have exhausted the capacity of the home market but which are essentially unchanged. Second, a preference for whole ownership is implied to protect the firm-specific, but contestable, knowledge of these firms from prying partners or incompetent middlemen and to permit the maximum strategic freedom to apply component capabilities in the "approved" manner. Third, larger companies are generally implied, as they have the managerial and financial assets to build an organization of wholly owned subsidiaries over time and the existing market power to move product on the basis of low price while fighting to counter imitative competition. Fourth, new product development in the home market or strategic stronghold is also implied, as this provides the best protection for skills in research and design. Learning in foreign locations is focused primarily on acquiring or developing complementary skills about the local market and business practices, very much in the "exploitative learning" mode.<sup>49</sup> Finally, specific practices of multinational firms in organization and control will be oriented toward efficiency in "know-how logistics," the ability to transmit specialized knowledge. Fixed sources of advantage must be exploited by the most efficient architecture in order to generate advantage, as all firms in an industry will eventually converge on the same basic component knowledge.

### ***Leverage and International Expansion***

The most obvious benefits of leverage through internationalization occur with component capabilities. Business-level component capabilities can be incorporated into products and exported, often are transmissible through licenses or management contracts, and are straightforward drivers of direct investment. Static component knowledge, however, is also the resource most subject to opportunistic behavior, the key consideration of transaction cost models of the multinational.<sup>50</sup> Particularly relevant when seeking profitability from technical resources are: decisions about protecting key skills from opportunism in the market or from partners; organizing to maximize efficiency in selling established technology; and appropriating as much of the value-added chain as possible through internalization. Also most apparent when focused on leveraging component knowledge are: market power strategies, enhancing oligopolistic worldwide

industry structures, leveraging financial strength, exploiting brand names, and overwhelming, acquiring, or co-opting local competitors. For example, DuPont's initial motivation to move into Europe was the exploitation of U.S.-developed technical skills and capabilities to extend current competitive advantage in a larger market. Essentially, most of this firm's overseas activities related initially to strategies of exploiting component capabilities developed in the U.S. Accordingly, firms leveraging *business-level component* capabilities internationally are most likely to organize into global product divisions with export strategies based on global production platforms while seeking local skills only in sales and marketing. Internal trade will be one-way from the parent to subsidiaries and will focus on final goods.

Most leverage strategies appear to focus on component capabilities, but the corporate-level architectural capabilities developed in home markets also may be leveraged in international expansion. Worldwide export strategies that exploit size advantages benefit from skills in the management of ever-larger plants, complex distribution, and cost-based marketing. The "mini-parent firm" structures found in multi-domestic firms with independent subsidiaries reflect the organizational strategies and structures of the home country (even when not strictly appropriate). Multi-country operations are, to a certain extent, an extension of multi-plant management problems in the home country. Many of the problems of running a large domestic company can be extended to international markets,<sup>51</sup> and traditional models of the multinational firm assume that such firms are, in most cases, large firms. For example, in 1996, Amoco's commodity chemical group had moved its products, processes, human resource, marketing, and sales strategies to Europe in their totality. Its international capability strategy was to leverage capabilities developed in the United States. To accommodate this purpose, the architectural capabilities of the American parent were followed in detail despite the lack of local fit. For this company, internationalization provided a broader scope for the application of capabilities learned at home, as when it decided to use stock options to reward European workers and managers, despite tax disadvantages not present in the United States. Firms leveraging home-country-based *corporate-level architectural* capabilities through international expansion are more likely to use a geographically based organization and a multi-local strategy based on greenfield startups and whole ownership in an effort to reproduce home-country corporate structures and systems exactly.

### *Leverage and Global Integration*

Leverage is enhanced by the integration of markets. Not only are existing capabilities extended to foreign markets, they are applied to a world market. Given the need to adapt somewhat to local conditions,<sup>52</sup> core capabilities that can be targeted at global markets gain maximum benefits to size and market strength. Global integration permits each process technology to be pushed to its limit, global products provide the returns needed to push technology and quality as far as possible, and brand names take on a larger-than-life aura. Kogut describes advantages of matching competitive and comparative advantage and

of arbitraging across markets and leveraging advantages from one market into another.<sup>53</sup> Similarly, Hamel and Prahalad suggest that leveraging brand names, distribution capabilities, and financial resources are the key characteristics of global strategy.<sup>54</sup> Matching component capabilities to local economic conditions by differentiating activities across national locations and coordinating the value chain worldwide is the hallmark of the global firm. For example, Caterpillar has had extensive experience in international markets for fifty years as a dominant competitor in heavy equipment. As a result, it has considerable expertise in sourcing high-value components from the U.S. and less critical parts in low-cost areas, while focusing on local assembly and downstream activities. Firms leveraging *business-level component* capabilities globally are most likely to organize into home-based global product divisions that split their value-added activities across markets based on matching firm-specific capabilities and location-specific resources. These firms will demonstrate high levels of two-way internal trade in intermediate goods between subsidiaries and the center.

Leveraging component knowledge globally requires sophisticated capabilities in splitting and coordinating value-added activities, implying the need to replicate architectural capabilities. Managing a product-diversified domestic firm can be leveraged into managing an internationally diversified and globally integrated firm.<sup>55</sup> It would seem that functional management skills, much as functional technical skills, can be brought from national to international to global competition through extension and exploitative learning.<sup>56</sup> Managers must learn to do what they do better, larger, faster, more efficiently, but do not really need to learn to do new things. The management systems of Matsushita have been leveraged globally, with coordination of the world-wide value chain looking much like that in Japan. Capabilities developed over the years in providing high quality goods, superior asset management, and highly competitive prices quickly and accurately were leveraged into all of the firm's worldwide markets.<sup>57</sup> Ultimately, firms leveraging *corporate-level architectural* capabilities globally are most likely to extend their primary functional or product division structure globally. However, such firms are more likely to base product divisions abroad, to use financial cross-subsidies, and to engage in inter-subsidiary trade (activities that require high levels of coordinating capabilities) than are firms leveraging component capabilities.

### ***Building Strategies and the Multinational Firm***

Multinational firms must build new capabilities as well as leveraging existing ones if they intend to find sustained advantage in worldwide markets.<sup>58</sup> Porter suggests that firms can tap into location-tied skills through direct investment.<sup>59</sup> Birkinshaw and Hood address capability building and its relationship to strategic change at the level of the single subsidiary, which can provide considerable technical skill if given some independence.<sup>60</sup> Bartlett and Ghoshal describe "strategic leader" subsidiaries that provide both component and architectural skills to the entire multinational network.<sup>61</sup> Certain consequences for the strategic configuration of the multinational firm also can be drawn at the corporate

level from the demands of capability building. First, advantage is dynamic, based on ability to create the new, not to exploit the old. Second, this implies the extensive use of joint ventures, alliances, and acquisitions to explore for new knowledge rather than a focus on whole ownership to protect old knowledge. Third, as component capabilities can best be developed where the local business environment favors them, a global search for new products and processes suggests product divisions based around the world, not controlled from home. Finally, component capabilities in leading firms must be shared inside as well as outside the firm to make use of them before new learning makes them obsolete. This implies that internal networks are critical, providing a much more active role for the subsidiaries and affiliates of the firm in working together directly. The central headquarters must develop skills at coordinating, not controlling, on a global basis. Thus, it becomes responsible for setting standards and building frameworks rather than actively managing operations on a daily basis. As a result, the corporate headquarters must know when to set standards (such as information systems and financial reporting) and when to stay out of transactions (as when subsidiaries share technology). While component capabilities can be found in new places and created by new combinations, architectural capabilities in integrating networks of differentiated affiliates must be built by managing such a network.<sup>62</sup>

To a large extent, the very characteristics of successful leverage strategies create barriers to building innovative strategies.<sup>63</sup> Often firms seem to either focus on exploiting parent capabilities or on incorporating the rich experiences of newly developed networks. Where both strategies exist, they are tied to very distinct business areas that appeared to offer little support for one another. In 1996, Manpower International, a large multinational promoter of personnel services, continued to provide its traditional, very locally organized, personnel services through one SBU, based in the U.S. At the same time, a separate division, headquartered in Europe and founded only a few years earlier, offered globally integrated services of greater variety to large, multinational, corporate accounts.

### *Capability Building and International Expansion*

If capability leverage strategies seem most intensely tied to component capabilities and internationalization, capability building among multinationals appears to be more closely tied to globalization efforts and architectural capabilities. Internalization of significant new skills, while feasible, is not described commonly in the international business literature. Rather, home-country-derived tacit knowledge most often is treated as the strength of the firm.<sup>64</sup> However, internationalization certainly provides access to new products, processes, and technologies that can be incorporated into the firm's array of technical capabilities. Many firms have come to the U.S. seeking technical skills to either outsource or incorporate in the search for international competitive advantage. However, even firms based in the U.S. are now discovering superior technological capabilities in European, East Asian, even former socialist countries. Global

multinationals encourage major new businesses to develop in the most demanding foreign local markets. At the same time, barriers to multinational firms' investing in foreign locations to tap into local clusters of unique skills are diminishing around the world. An acquisition, alliance, or start-up in the right location can access skills and resources unavailable in the home country. Learning through international expansion confronts the problem of "sticky" or location-bound knowledge that multinational firms can incorporate only by establishing new units in the originating location. Stickiness of component capabilities suggests that a critical role for the multinational in the developing information age is to transmit internally information that would be tied to a single location in external market conditions.<sup>65</sup>

For example, both Hewlett-Packard and Motorola Semiconductor have largely shifted from their capability exploitation strategies of earlier times to recently developed searches for new technology *in situ*. They have organized into global product divisions but have based these divisions in various foreign subsidiaries rather than relocating these "headquarters" operations to the United States. This approach is intended to take advantage of local capabilities in particular business areas and bring them into the organization through acquisition, alliance, or start-up. Of course, these firms have also moved to leverage their newly incorporated know-how, but the building strategy is what really distinguishes the internationalizing efforts of technology leaders. In another example, Sony moved to set up data storage labs in the U.S. as American technology surpassed Sony's original Japan-sourced storage technology, and the same company decided to form a joint venture with Qualcomm in San Diego as digital cellular telephone technology began to dominate Sony's original analog technology.<sup>66</sup> As a result, firms building *business-level component* capabilities through international expansion are more likely to acquire local firms or set up joint ventures with local partners in foreign locations that are known to have regional clusters with unique capabilities in that line of business.

Separating component knowledge from architectural knowledge in international expansion is difficult. Building worldwide architectural capabilities is tied more to globalization than to internationalization. From the multinational corporate perspective, most of the skills related to a specific location appear to be components of a specific business. Firms such as DuPont have preferred to build new know-how through greenfield approaches or using alliances, reserving acquisition for major expansions into new business areas, usually buying an existing multinational firm rather than a local operation. Such acquisitions bring in not just technical skills in the new business area, but the industry-specific architectural knowledge of the acquired firm. Primary targets are typically successful international competitors, not struggling takeover candidates, reinforcing the proposition that acquisitions by global firms are for the purpose of building architectural capabilities. Consequently, firms attempting to build *corporate-level architectural* capabilities through international expansion are more likely to acquire other multinational firms or their units rather than foreign local companies. These acquisitions also are more likely to be set up as new business units.



### *Capability Building and Global Integration*

Corporations appear to build most major capabilities in international markets through globalization. It is possible for the integrated global firm to find component and architectural capabilities in foreign locations that would otherwise not be available to the firm and then bring them into the broader set of corporate skills. As Nohria and Ghoshal observe, “a key advantage of the multinational arises from its ability to create new value through the accumulation, transfer, and integration of different kinds of knowledge, resources, and capabilities across its dispersed organizational units.”<sup>67</sup> In common with other studies,<sup>68</sup> these authors see that the organizational changes associated with global integration produce new component capabilities through the vehicle of network structures simultaneously developed for these purposes. Kogut and Zander show that in a final stage of the evolutionary process of international firm growth, “the learning from the foreign market is transferred internationally and influences the accumulation and recombination of knowledge through the network of subsidiaries, including the home market.”<sup>69</sup>

Business-level component knowledge is built in global firms through a two-stage process. First, the firm conducts the same sort of search, identification, and incorporation process as noted above for international strategies. The second phase involves a process of combining resources and capabilities taken from various subsidiaries and alliances into new capability bundles not available to any one national affiliate. Thus, building capabilities through globalization is as much a creative process as an accumulation and translation process, which involves devising or acquiring major new technical capabilities and including both exploratory and exploitative learning elements.<sup>70</sup> Building component knowledge through globally integrated activities is perhaps the best use of strategic alliances between multinational partners. Unique capabilities in a particular business area can be shared to the mutual benefit of all of the partners, yet can be exploited separately. Capability bundles that are otherwise not available to any individual firm can be assembled in an efficient and flexible manner through the alliance, where whole ownership would be a slow and expensive path to new capabilities. For example, Hewlett-Packard has set up a system of “internal joint ventures” to create coordinated strategies across several of its highly decentralized and highly specialized business units. In this way, it can present globally unique products and product lines that are unavailable from any single business unit or country unit. Ultimately, firms building *business-level component* capabilities through global integration will use a preponderance of strategic alliances, both external and internal, in their core businesses.

The transfer of knowledge from subsidiary to network is difficult, but it is a key part of the architectural knowledge of the successful multinational network. Global integration is key to the development of new architectural capabilities. Hewlett-Packard’s internal joint ventures pulled together component knowledge, but they required unique organizational skills (and most of the time of a corporate vice-president) to arrange. While international diversification appears to require similar elements to product diversification, the complexity

of managing an integrated global strategy through a complex firm structure is unique to the global firm. These capabilities are essential to the coordination of the technical capabilities described above, but also produce new methods of structuring all aspects of the firm's activities. Innovation becomes a product of internal R&D, research partnerships with various clients and suppliers, market scanning, and other processes pulled together through the network of relationships of the central firm. Global firms are able to combine products across product lines and business units to offer bundles of products and services around the world that involve intensive coordination, not just international access, and which provide significant competitive advantage over firms which focus on isolated component knowledge.

For both Hewlett-Packard and Motorola Semiconductor, the use of internal and external partnerships was widespread in 1996, new basic research facilities were being added in new regions, and multiple business units spread around the world all retained new product development responsibilities in a decentralized network. Furthermore, production was located where most effective, then coordinated by various processes, including but not limited to hierarchical line management. Hewlett-Packard separated sales and marketing (organized on a geographical and product-line basis) from production and development (organized into independent profit centers) and yet was able to tightly coordinate all these activities. Significantly, this firm showed high levels of intra-firm (but international) movement of knowledge, particularly of tacit, complex knowledge.

NCR and Hewlett-Packard also have been involved in efforts to globalize both their component and architectural capabilities through finding new combinations of businesses and business skills from their subsidiaries and alliances. Both of these firms have transformed some of their production facilities into "Lead" factories with responsibilities to truly innovate and create new technologies, processes, and products.<sup>71</sup> Nohria and Ghoshal's vision of business-related capabilities arising from Schumpeterian insight within the global network firm has been quite evident in these companies.<sup>72</sup> In the process of pursuing these advantages, these firms have been involved in actively pursuing such architectural capabilities as internal joint venture development, corporate specialists in emerging economies, and active technology partnerships with multiple competing customers. In order to do this, decentralization of authority has been a goal of these firms, but continued non-authoritarian interventions by higher central authorities has also been important. Effectively, multinational firms that are building *corporate-level architectural* capabilities in global markets are most likely to be characterized as differentiated networks with "headquarters activities" that are highly decentralized and geographically dispersed—i.e., true transnationals.

## Conclusions

Capability-based theory provides a conceptually rigorous approach to the analysis of multinational strategies that can complement and augment

transaction-efficiency models and market power models of globalization. Our framework builds a coherent model of international expansion and global integration from two basic types of complex assets (component and architectural capabilities) and two basic capability processes (leverage and building). The influence of these strategic imperatives on decisions to internationalize and globalize in multinational firms is an outcome of organizational strategies based on fundamental drives for expansion of resources and extraction of profits, rather than an unspecified need for integration unique to multinational firms. On the other hand, we also use this inherently firm-level model to predict individual company outcomes that cannot be extracted from the macro-economic or industry-level theories common to foreign direct investment theory.

Leading firms in technology-intensive industries are indeed globalizing, but they are doing so to build or discover new capabilities as much as to further leverage their existing assets and skills. Other companies, however, can gain considerable economic benefit from the high leverage and low exploration inherent in more simple international strategies. In mature, cost-competitive industries, the complex organizations and high-opportunity-cost management techniques required to manage global capability building are not able to generate benefits that would justify their costs. One implication often drawn from the current literature is that all firms in all industries are moving toward an integrated global network. However, while of great value in innovation-driven businesses, these network forms are extremely expensive, in both real and opportunity costs, and may offer little value in more traditional cost-driven businesses. Our model provides managers of multinational firms with a framework to decide just how international or how global they might want to be. Ultimately, this decision needs to be based on the situation of the firm, not on generic industry recommendations or on standardized solutions to a complex set of issues.

## Notes

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