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A Knowledge-based Theory of the Multinational Economic Organization

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The study of the MNC has been deeply influenced by transaction-cost economics over the last four decades (Buckley and Casson, 1976; Dunning, 2000; Hennart, 1982; Rugman, 1981). Coase's (1937) analysis of the boundaries of the firm became the foundation of one of the most important and enduring areas of international business research: the study of internalization and the theory of the multinational corporation. However, recent research has argued that a capability-based approach to the MNC provides a more complete analysis than traditional internalization theory (Cantwell, 2014; Teece, 2014).

In this paper, we argue that efforts to subsume the analysis of internalization within the study of capabilities exhibit a fundamental flaw. They neglect a critical distinction Williamson (1999) made between economic organization and the firm. Drawing on concepts from the knowledge-based view of the firm, we develop a more comprehensive approach to multinational economic organization that deals with questions of both scope and form of organization.

Introduction

The boundaries of the firm have been a major issue in economics, strategic management, and international business during the eight decades since the publication of Ronald Coase's (1937) groundbreaking work "The Nature of the Firm." In the field of Economics, Coase's work helped to give new life to the theory of the firm and created new approaches to industrial organization (cf. Alchian and Demsetz, 1972; Klein et al., 1978), and in strategic management it helped to make the analysis of vertical integration and the scope of the firm central research concerns (Hennart, 1982; Williamson, 1973). However, the field most centrally influenced by Coase's work probably has been International Business (Buckley and Casson, 1976). Coase's (1937) analysis of the boundaries of the firm became the foundation of one of the most important and enduring areas of international business research: the study of internalization and the theory of the multinational corporation.

The study of the MNC has been deeply influenced by transaction-cost economics over the last four decades (Buckley and Casson, 1976; Dunning, 2000; Hennart, 1982; Rugman, 1981). Coase's (1937) argument that the boundaries of firms are determined by the relative costs of market-mediated exchange vs. exchange carried out within a complex organization has been the fundamental analytical framework for addressing one of the key questions of the field of international business: under what conditions do multinational corporations replace trade as a means of organizing international economic exchange? This concern with the boundaries of the multinational firm has been one of the defining issues for the field of international business for forty years.

Internalization theory argues that imperfections in the markets for intermediate products drive the emergence of MNCs. The MNC internalizes flows of information and goods and replaces international trade as a means of organizing international economic exchange in response to market failure (Buckley and Casson, 1976, 1987, 2009; Hennart, 1982, 1994; Jones, 1996). Originally developed as a framework for understanding foreign direct investment, internalization theory has emphasized sources of market failure such as problems of pricing and disclosing information, bilateral market power, and opportunistic behaviors by licensees or local partners (Arrow, 1962; Buckley and Casson, 1976; Hennart, 1982; Rugman, 1981).

More recently, researchers in international business have begun to question the view that internalization theory can provide an adequate explanation of the boundaries of the multinational firm. There has been growing recognition that internalization theory deals relatively narrowly with the efficiency of the MNE as a device for exchange of goods and services but gives little attention to the competitive capabilities of the firm or the reasons for firm growth (Jones, 1996). Recent research has argued that a capability-based approach to the MNC provides a more complete analysis than traditional internalization theory (Cantwell, 2014; Teece, 2014). The capability-based view argues that the boundaries of the MNE are determined by the ability

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of the firm to utilize key capabilities in new areas of business rather than the relative costs of organizing exchange inside and outside the firm (Teece, 2014). The MNE emerges from this work as a loosely-defined organization that may take the form of a network of semi-independent entities or even a global value chain that includes formally independent suppliers and customers (Buckley and Casson, 2000; Buckley and Ghauri, 2004).

The recognition that multinational enterprises have become increasingly porous entities with ambiguous boundaries is an important response to the complexity of the contemporary global economy. However, recent arguments that subsume the analysis of internalization within the study of capabilities exhibit a fundamental flaw. They neglect a critical distinction that Williamson (1999) has made between economic organization and the firm. Williamson (1999) argues that the concept of economic organization is much broader than that of the firm. The firm is a legal entity with certain ownership characteristics and the potential to employ incentives that allow it to reduce transaction-costs (Foss, 1996a, 1996b; Williamson, 1985). Economic organization, on the other hand, does not necessarily involve the formal legal structure of a firm.

In this paper, we build on Williamson's (1999) basic insight to argue that capability-based theories of the MNE leave key questions about the form of organization of economic activity unanswered. Capability-based theory can provide a way of addressing very important questions about the scope of economic activity, but it is an incomplete approach to questions about the structures through which economic activity is organized. The ideas of capability-based theory are complementary to the analysis of internalization, but they represent only half of an analysis of the multinational enterprise.

We develop a more comprehensive approach to multinational economic organization that deals with questions of both scope and form of organization. We draw on underlying ideas from the knowledge-based view of the firm to create a detailed analysis of the role played by capabilities in defining the scope of the multinational economic organization (MNEO). We then combine this view of capabilities with key concepts from transaction-cost economics to develop a more comprehensive theory of the scope and structure of the multinational enterprise.

A Capability-based View of Economic Organization

Knowledge-based theory

In the 1980's, the resource-based view of the firm drew attention to the critical role of organization-specific strategic assets in competitive advantage (Barney, 1986; Wernerfelt, 1984; Winter, 1987). However, the explosion of new information sources and new technologies in the 1990's created pressure on firms to upgrade capabilities quickly using knowledge from external sources. Companies came to rely increasingly on external networks for new knowledge, and multinational enterprises began to exploit their international presence to tap a wider range of knowledge sources (Buckley and Casson, 1985; Dunning and Narula, 1995). This emphasis on external knowledge posed an important theoretical problem for researchers — how can public knowledge help an organization develop firm-specific competitive advantages?

Knowledge-based theory offered a response to this question by focusing on a specific type of strategic capability: capabilities for the acquisition and use of knowledge (Galunic and Rodan, 1998; Grant, 1996; Loasby, 1998; Spender, 1996). Knowledge-based theory argued that the performance of the firm relies on firm-specific capabilities for knowledge creation coupled with the management of relationships for external knowledge-transfer (Grant, 1996; Kogut and Zander, 1993; Spender, 1996).

Organization of knowledge sharing

This view of the firm as a porous entity embedded within a larger web of economic relationships draws attention to an important organizational issue. Many different types of inter and intra-organizational exchange provide organizations with inputs for the creation of knowledge. Some knowledge sharing relationships are closely managed within firms; some involve highly autonomous units; others exist as stable network ties with external actors; and still others are more transient connections. Different organizations may organize knowledge-sharing relationships in different ways under similar technical and market conditions, such as alliances, local clusters, or industrial research consortia. This raised an important question: What is the most effective means of organizing any specific knowledge transfer?

Firm v. organization

Williamson's (1999) key distinction between firm and organization is important in this context. The firm is a legal structure that allows the use of incentives that cannot be effectively employed in arm's length transactions. Firms represent one specific type of organization within a larger spectrum of economic organizations. "Economic organization," on the other hand, takes in all stable exchange systems that support knowledge-sharing and build productive capabilities — including social networks, industrial clusters, firms, alliances, even some quasi-market exchanges (Kogut, 2000).

The effects of knowledge on performance

This leads to one of the most basic questions for the management of knowledge: *how* do knowledge assets contribute to the survival of complex organizations in a competitive economy? The view that organization-specific capabilities for

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acquisition and synthesis of knowledge are key sources of competitive advantage rests on a distinction between two types of capabilities: capabilities involved in creation of new knowledge and capabilities that allow an organization to deliver goods and services, such as production facilities and technologies, distribution channels and marketing capabilities. Grant (1996) called these different types of capabilities the "ability to coordinate" and the "ability to do." For the sake of simplicity, we will call these two types of capabilities *integrative capabilities* and *productive capabilities*. Integrative capabilities include the ability to acquire or absorb information and the ability to recombine and reconfigure it to create new knowledge. Productive capabilities include the range of business and technical skills required to produce and deliver goods and services. Productive capabilities involve both practical knowledge and the application of that knowledge in productive processes. Integrative capabilities are less easily delineated; they have been described as team work, communal control capabilities, organizational language, absorptive capacity, and a variety of other similar things (cf. Alchian and Demsetz, 1972; Arrow, 1974; Cohen and Levinthal, 1990).

Productive capabilities allow companies to bring new products to market, reduce costs, develop new features or services, and do all the other things that pay off in cost advantages and product differentiation. Integrative capabilities are the foundation on which productive capabilities are built. They allow the organization to acquire and utilize knowledge to develop new productive capabilities.

Environmental change may result in rapid substitution and imitation of productive capabilities (Robins and Wiersema, 2000). Under those circumstances, the survival of an organization in a competitive economy will depend on creating a stream of new productive capabilities. The ability to achieve this constant renewal of productive capabilities rests on strong integrative capabilities.

Integrative capabilities therefore play a central role in determining the economic activities undertaken by an organization. They determine the range of economic activities in which a firm can hope to succeed. Expansion of an economic organization therefore relies on acquiring and using knowledge to develop productive capabilities that are valuable in new areas of business (Penrose, 1959). Integrative capabilities of an economic organization allow it to recombine knowledge and develop new productive capabilities in response to new business opportunities (Teece, 2014).

The scope of economic organization

This approach to capabilities thus offers a simple, compelling account of the scope of an economic organization. The range of economic activities undertaken by an organization is defined by the organization's integrative capabilities and the opportunity set to which the organization is exposed. Communication channels — including internal and external social networks, alliances, markets, and a variety of forms of social capital — determine the knowledge resources potentially available to an organization. These knowledge resources are not only technical forms of knowledge; they may include market information or even information about operating in a specific political or social environment (Jones, 1996). Integrative capabilities determine what the organization does with the available knowledge, i.e. what new productive capabilities are developed. Successful expansion in competitive markets characteristically relies on the creation of new productive capabilities that satisfy the original resource-based criteria of being valuable in the new area of business, scarce, and difficult to imitate or substitute. Those new productive capabilities may be applicable across multiple areas of business or geographic locations or they may be specific to a product-market or local environment. In the case of the MNEO, they ultimately determine which product and geographic markets offer opportunities for the organization to achieve competitive advantage and earn profits.

What are integrative capabilities?

What are integrative capabilities? Up to this point, we have discussed them in terms of their functions, i.e. their role in creating productive capabilities. It remains unclear *how* integrative capabilities integrate knowledge to create productive capabilities.

Knowledge-sharing is a problem of human interaction. Knowledge resides in human minds, and it is transmitted among people as information (Nonaka and Takeuchi, 1995). The creation of new productive capabilities involves sharing of knowledge among people. An organization has distinctive integrative capabilities if it can bring together knowledge from diverse individuals and utilize it to create productive capabilities that are scarce, valuable, and difficult to imitate or substitute.

What do economic organizations do?

Why are complex organizations particularly well suited to be places where knowledge is shared and integrative capabilities are developed? Why would not market mechanisms or other types of arrangements be able to do a better job of aggregating information and recombining it into new knowledge? Why would an information broker with very good technology and extensive data bases not serve as a lower cost replacement for the knowledge-based organization?

The response proposed by Kogut (2000) and others (cf. Ghoshal and Moran, 1996; Kogut and Zander, 1993) is that economic organizations are essentially social communities. Commonly held values, shared norms and language, culture and history endow organizations with special capabilities for communication and knowledge integration. Arm's length arrangements lack this foundation of sociability and cannot operate as effectively in acquiring and synthesizing knowledge.

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This view of economic organization does not imply employment of individuals within a single firm or common ownership of different organizational units — even if they are geographically dispersed. The social capital described by Kogut and Zander (1993) potentially can develop within any form of stable relationship, including informal associations among individuals or organizations. If we accept Kogut's (2000) contention that capabilities are built on a substructure of social community, then a governance structure based on ownership is not a necessary condition for the development of integrative capabilities within an economic organization.

It is easy to find cases of economic organizations that have expanded and operated across borders without the legal structure of a firm. The well known coffee company Diedrich began as a family coffee grower in Costa Rica and Guatemala. In the 1970's, the family expanded into coffee roasting in California. The California operation was incorporated in the United States but it was not legally organized as a subsidiary of the coffee plantations in Central America. Coffee plantations and roasting business were run by brothers, and the extended economic organization was managed through family ties. The US branch of the organization subsequently moved from roasting into coffee retailing with a handful of shops in Irvine, California area. The shops still operated as outlets for coffee grown in the family plantations and roasted in the family roasting plant. The brother who began the roasting plant also created a business building and selling coffee roasting equipment in the United States. In the mid-1990s, the US operations went public and expanded nationally through acquisition of other coffee retailers and franchising. Eventually, the retail business was spun off and Diedrich continued as a family roaster of family grown coffee until they were acquired by one of the major U.S. coffee roasters in 2009.

Throughout most of the history of the organization, Diedrich was an MNEO partially coordinated through kinship ties. Family-grown coffee from Central America that was roasted and sold in California was not traded across a competitive market. Nor was Diedrich a single limited-liability corporation. They were an MNEO in which different parts were legally incorporated in different countries and coordination of exchange was organized through kinship ties. Diedrich management recognized that the detailed knowledge of different aspects of coffee production — from quality growing to quality roasting and retailing — that was dispersed through the larger economic organization could be combined to create a distinctive capability as one of the premier specialty coffee retailers in the USA. Diedrich moved from being a local Costa Rican firm to a multinational economic organization through relocation of family members who brought with them new capabilities to operate in related businesses — and then developed still further capabilities to expand in new product-markets.

There are many similar examples of family MNEOs. Some of the largest enterprises in the world initially grew in that fashion, without the benefit of a limited-liability firm structure. Mawari trading families from nineteenth century India with names like Mittal, Ambani or Modi all provide rich histories similar to Diedrich but on a much greater scale.

New productive capabilities develop within existing economic organizations (firm and non-firm) through the capability to integrate knowledge from a diverse range of external and internal sources. Those new productive capabilities provide the impetus for expansion into new economic activities and geographic locations. In some cases, that expansion will take the form of internalization of activities within a formal organization such as a firm. This might involve product-market or geographic diversification of a corporation. In other cases, expansion may take the form of alliances, networks, informal organizations, complex forms of contracting, or arm's length transactions. The MNEO characteristically will be a compound of different organizational forms, often including a multinational corporation and various types of cooperative relationships (Beamish and Killing, 1997).

The cost of organizing

Capability-based theory is central to understanding the potential scope of the MNEO, but it is only half the story. The ability to operate profitably also relies on the cost of organizing economic activity. The critical insight of transaction-cost theory is that the organization of economic activity never is costless and that different modes of organizing activity may involve different costs in any given time and place (Coase, 1937; Hennart, 1994; Rugman, 1981; Williamson, 1985). When combined with capability-based theory, this gives us a way of understanding the scope and form of multinational economic organization.

The competitive criteria for the viability of a new economic activity are straightforward. An economic activity will incur net losses unless it can generate profits (rents) in excess of the cost of organizing the activity. Transaction-cost theory provides a framework for understanding the differential costs associated with different modes of coordinating economic activity, ranging from spot exchange in markets to full internalization within a firm. Productive capabilities must generate economic profits (revenues above the opportunity costs of assets) at least as large as the costs of the most economical form of organization. Otherwise an activity will not be viable in a competitive economy.

The theory of the MNEO

The theory of the multinational economic organization combines capability-based theory and transaction-cost theory to provide a more complete analysis of the multinational enterprise in a competitive economy. As Barney and Peteraf (2014) have argued, internalization theory alone cannot account for both the scope and structure of an enterprise — regardless of whether it is multinational or domestic. The capability-based approach provides a means of understanding how existing economic organizations develop potentially profitable opportunities in new industries or geographic areas. Transaction-cost theory completes the picture by answering two questions: What is the most cost-efficient way for a specific organization to pursue a new opportunity? Is there any form of organization that is sufficiently economical to offer the prospect of positive returns?

MNC vs. MNEO

A multinational economic organization may or may not be a multinational corporation (MNC) or contain a multinational corporation as a part of the MNEO. One of the key questions addressed by transaction-cost theory is when economic organization will take the form of a firm. If internalization offers the least costly way of organizing some or all of the economic relationships that constitute an MNEO, then that part of the organization will face economic pressure to be organized as a corporation. The resulting MNC may still be connected to other parts of the larger MNEO by ties such as alliances, licensing agreements, or purely informal but stable exchange relationships. If the MNEO began as an MNC, then transaction-cost theory helps to explain why certain parts of the organization remained as an integrated firm as other, non-ownership arrangements were created.

Multinationality of the MNEO

The combination of capability-based theory and transaction-cost analysis yields a coherent theory of the scope and form of an economic organization, but it does not touch directly on the question of location. Under what circumstances will an economic organization be an international economic organization? What distinguishes the MNEO from a domestic economic organization?

Two conditions are needed for an economic organization to expand activities to a specific location. The first is the ability to create productive capabilities that hold out the possibility of profitable operation in that market. The second is some location-specific opportunity to apply those productive capabilities. Diedrich Coffee's entry into the US market offers a good illustration.

Diedrich had developed a productive capability that was potentially valuable in the US retail coffee market in the early 1980s. They had the ability to produce and market coffee in the top tier of the newly-emerging market for specialty coffee. They were unusual in controlling the entire process from coffee growing through gourmet coffee roasting — something rival retailers like Starbucks could not claim and other coffee growers did not offer.

Prior to the 1980s, the productive capabilities required to reliably deliver a super-premium coffee would have been scarce in the United States but not very valuable. These capabilities became valuable after Starbucks pioneered the development of the specialty coffee market in the USA. Diedrich copied the Starbucks model for the roaster-retailer, but they added the distinctive quality that came with sourcing their coffee from family plantations, handling it themselves, and roasting it in small batch roasters of their own design.

The combination of the location-specific development of the market for specialty coffee in the USA during the 1980s and the productive capabilities developed by Diedrich created the opportunity for Diedrich to profit by entering the American retail coffee market. At the time Diedrich entered the retail market, only the USA offered a large and growing market for specialty coffee delivered through coffee houses.

The opportunities that define the geographic scope of the MNEO typically arise in this fashion. In the contemporary global economy, location-specific opportunities characteristically grow out of the development of local industries; pure Ricardian advantage based on fixed factors of production is rare (Meyer et al., 2011; Porter, 1990). It was the development of the specialty coffee industry in the USA that opened the opportunity for Diedrich to exploit their capabilities as a roaster-retailer at the high end of the American market. The same capability would not have been equally valuable in most other regions at that time. The specialty coffee market took off in the United Kingdom two decades later, and it is still in its infancy in many parts of continental Europe and Asia.

The Taiwan-based semiconductor producer MediaTek offers a similar example in a technology-intensive industry. MediaTek was founded in Taiwan in 1997. The company initially focused on designing integrated circuits (ICs) for optical storage devices such as DVDs. MediaTek became a major supplier for manufacturers of DVD drives by the early 2000s. In the process, they created several small subsidiaries in California that became instrumental in the development of new technology by the firm. The firm also continued to maintain close relationships with major independent chip foundry operations in Taiwan, TSMC and UMC.

The combination of technology from their American subsidiaries and manufacturing expertise from independent but closely-linked Taiwan foundries helped MediaTek develop new capabilities in the design of ICs. MediaTek ICs incorporated a broad range of functionality, with multimedia, navigation, and other functions such as dual-sim capability integrated within a single IC that could be manufactured cheaply and quickly.

At the same time, the market for smartphones had begun to open up in China and other emerging economies. MediaTek worked with small producers of handsets at the lower end of the Chinese market to help them develop products that could offer much of the functionality of more expensive mobile telephones at lower prices (Hu, Wan and Zhu, 2011). MediaTek capabilities in IC design were critical in this process. The small Chinese start-ups lacked engineering capacity and knowledge to develop their own ICs. MediaTek's ICs allowed the small producers to create competitive handsets in house. MediaTek also learned from the small start-ups; they worked with the Chinese manufacturers to develop reference phone designs that helped a small manufacturer to get into the business with minimal capital or engineering.

By this point, MediaTek had developed from a Taiwan firm into an MNEO that spanned Taiwan, China and the United States. Parts of the MNEO, such as the American subsidiaries and the Taiwan manufacturing operations, were organized as a firm. Other parts, such as the links to Taiwan chip foundries or Chinese handset manufacturers, were organized through personal ties and social networks. The feature of MediaTek that allowed it to develop competitive capabilities as an IC supplier to the low end of the handset market was the integrative capability that allowed the organization to combine knowledge from the American subsidiaries, the Taiwan chip foundries, and the Chinese handset producers to create new productive capabilities for IC design. These new productive capabilities allowed MediaTek to design ICs that were distinctive and valuable in the new Chinese handset market. The same productive capabilities would not have been equally valuable in a less cost-sensitive market such as Japan.

The integrative capabilities of the MNEO MediaTek made it possible for the organization to use knowledge from diverse sources to create a distinctive productive capability in IC design, and MediaTek's productive capability in IC design allowed it to take the opportunity in China that existed due to the development of the local handset market — and thus expand the geographic and product-market scope of the MNEO MediaTek. At the same time, the part of the larger MNEO that was organized as a firm was determined by potential transaction-costs associated with establishing and managing units in California that developed and transferred technological knowledge to the Taiwan headquarters. These units became wholly owned subsidiaries while knowledge transfer within Taiwan could be managed between MediaTek and the foundries through personal and network ties without internalization.

Conclusion

The shift from internalization to capability-based theory in international business research reflects the shifting landscape of international business. The globalization of business over the last forty years has fundamentally altered competition among multinational enterprises. At one time, the ability to carry out international exchange more efficiently than trading through the market gave multinationals an advantage over many domestic and foreign competitors. Globalization has largely wiped out this advantage. As markets have opened up, they have become accessible to a wide range of competitors, including other MNEs. Geographic diversification no longer serves as a source of competitive advantage. Firms — whether international or domestic — must compete based on internal capabilities that allow them to introduce new products, improve processes or provide higher levels of service than competitors.

The capability-based view of the firm has emerged in response to this competitive landscape. The capability-based view provides a means of understanding the conditions that allow an MNE to expect to profit in a new market. The MNE relies on the same capabilities that have made it successful in other locations. If the new market offers an opportunity to utilize these capabilities, then expansion may be profitable. The simple fact of being in that market cannot provide the expectation of profit — the market must offer an opportunity to utilize scarce, valuable capabilities possessed by the firm.

Although the capability-based view offers a way of understanding the geographic scope of multinational economic organization, it does not address the form of organization of economic activities. The extension of economic activity to new geographic or product markets can be done in ways that range from the formation of a new wholly-owned subsidiary to licensing, selling services, or developing stable cooperative relationships with up and downstream firms. Capability-based theory offers no means of the form in which economic organization will expand.

Transaction-cost theory addresses the issue of organizational form. Traditional questions about the relative efficiency of internalization remain relevant in this context. In situations where transaction-costs can be expected to be low, an MNE can exploit opportunities in new markets by licensing, selling services, forming non-equity alliances, or other arm's-length arrangements. If transaction costs are high in those types of arrangements, MNEs can be expected to either integrate the activity through direct investment and ownership or pass up the opportunity when all viable forms of organization are too costly.

Taken together, capability-based theory and transaction-cost theory provide the tools for a comprehensive approach to the MNEO. The capabilities of the organization drive expansion and help to determine the scope of economic activity. Transaction-costs determine the form in which activities will be organized. This combined approach to capabilities and transaction costs argues for a broader view of the MNE as an economic organization that may include both formally independent partners and wholly owned units. The multinational economic organization is both a nexus of contracts and a nexus of capabilities. Its scope is determined by the applicability of productive capabilities in domestic and foreign markets; its form is determined by the relative costs of organizing economic exchange both across and within national borders.

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