Why Do Firms Relocate Headquarters?: An Examination of Stable and Dynamic Industries

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This conceptual paper looks at dynamic capabilities as a specific type of knowledge that is geographically localized. Dynamic capabilities are knowledge-based processes that are developed over time by means of interactions among a firm's resource bundles and capabilities. Dynamic capabilities enhance a firm's capacity to leverage resources and organizational processes to increase profitability. Corporate headquarters were selected as a unit of analysis because of their knowledge-intensive nature. Empirical evidence suggests that just over 5% of headquarters relocate every year and that the reasons for the relocations go beyond tax incentives. It is argued that the geographical proximity of headquarters causes spillover of operational knowledge during interactions between managers. This operational knowledge includes various routines and contains dynamic capabilities. This paper links studies on dynamic capabilities and studies on geography of knowledge and headquarter relocations. The information gathered can help to explain why corporate headquarter relocations take place, and how firms may increase profitability by moving their headquarters to a location favorable to building particular dynamic capabilities.

Introduction

In strategic management, firms create competitive advantage either by picking resources or building capabilities. Those capabilities that are firm-specific can be sources of advantage, and as such they should be built up, organized and protected. This approach is called 'dynamic capabilities' in order to emphasize the exploitation of existing internal and external company-specific competencies to address changing environments (Teece *et al.*, 1997). The framework is based on the development of managerial competencies and difficult-to-imitate mixtures of executive, functional and technological skills. It also integrates and draws on research in administration of R&D, product and process development, transfer of technology, intellectual ability, manufacturing, human resource management and organizational learning.

There have been many studies defining dynamic capabilities and arguing why they can be a source of competitive advantage for a company (Barney, 1991; Constance, 1997; Eisenhardt and Martin, 2000; and Blyler and Coff, 2003). Dynamic capabilities have been found to

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represent a specific type of knowledge (Makadok, 2001; and Malik and Kotabe, 2009). However, further implications that derive from the knowledge aspect of dynamic capabilities have not been analyzed. For instance, one of the key attributes of knowledge, according to numerous studies, is geographical-localization that implies that knowledge flourishes in specific locations (Jaffe *et al.*, 1993; Zucker *et al.*, 1998a; and Keller, 2002). Therefore, dynamic capabilities, being a special type of knowledge, must be geographically bounded.

The knowledge-intensive nature of headquarters makes them a perfect place to store a large portion of dynamic capabilities, and an interesting subject for study. Traditional functions of headquarters include being a major source of knowledge and competencies (Ambos *et al.*, 2006). This paper aims at analyzing the evolution of the notion of dynamic capabilities and its associated concepts, arguments about the geographical localization of knowledge and analysis of knowledge networks.

In the strategic management field, it is suggested that firms create economic rents by means of two separate fundamental mechanisms: (1) resource-picking; and (2) capability-building. While employing resource-picking mechanisms, executives collect information and perform analyses to outmaneuver the resource marketplace in selecting resources. This approach is analogous to the technique used by mutual fund managers who seek to outsmart the stock market in selecting securities. While employing capability-building mechanisms, executives plan and build organizational systems to improve the output of any resources the company acquires. These two rent-producing approaches are not mutually exclusive, and in many cases firms employ both of them either consciously or unconsciously. One of the examples of simultaneous use of two rent-producing mechanisms is the relocation of corporate headquarters. Headquarter relocation can be viewed as both a resource-picking and a capability-building mechanism (Figures 1 and 2).

Figure 1: Location-Specific Advantage

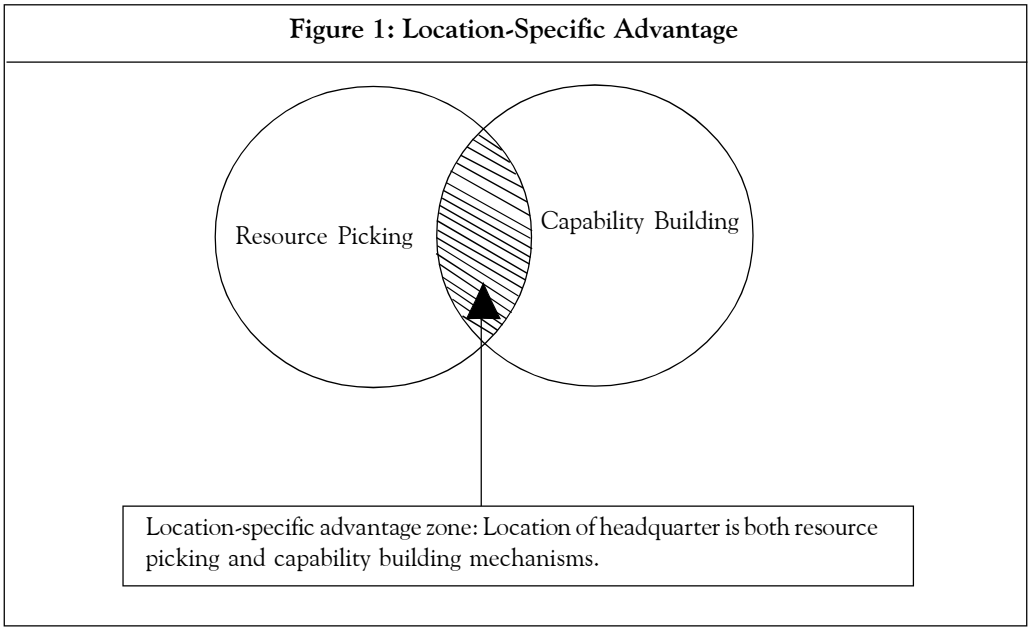
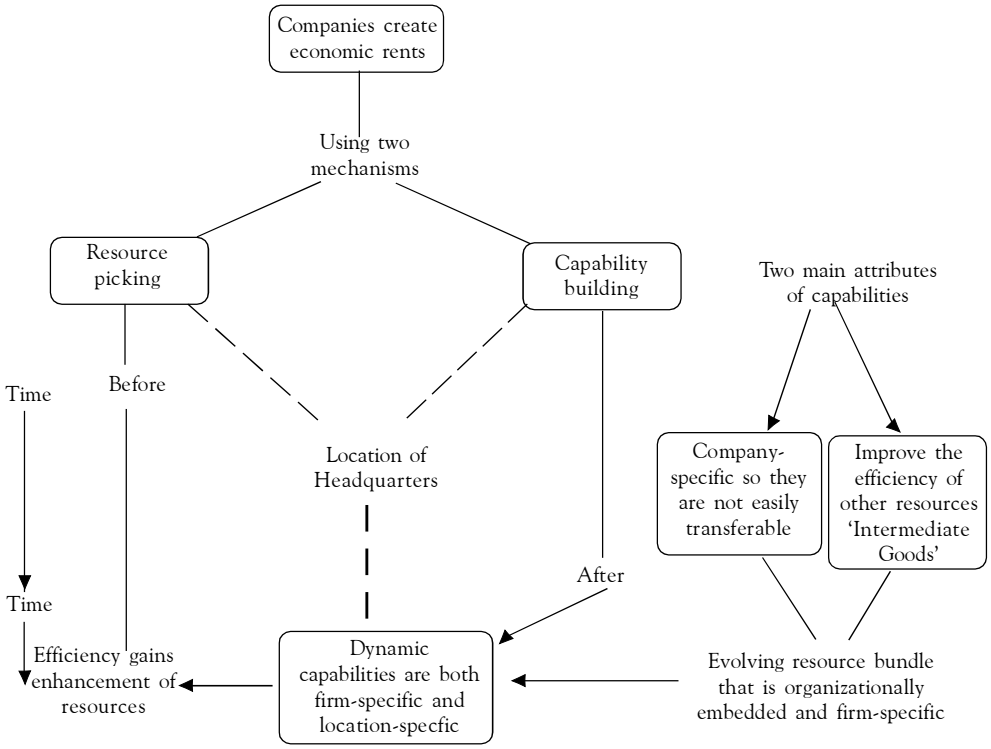


Figure 2: Economic Rent Creation with Theoretical Framework



Research on the interaction between these two rent-producing methods revealed that the two mechanisms are complementary in some situations, but substitutes in others (Richard, 2001). The basic assumption is that firms produce a sequence of 'temporary' advantages by adding and reconfiguring resources, which may develop into a sustained advantage once the full pattern is considered. This process allows the company to obtain higher rent by achieving new forms of competitive advantage (Carmeli and Tishler, 2004). Higher rent is a rate of return generated in "excess of the minimum needed to attract resources" (Milgrom and Roberts, 1992). Dynamic capabilities are treated as a special type of knowledge, and defined as firm-specific capabilities that can be sources of advantage by exploiting existing internal and external company-specific competencies to address changing environments (Teece *et al.*, 1997). In this paper, they are defined as the "capacity of an organization to purposefully create, extend, or modify its resource base" (Helfat *et al.*, 2007).

Evolution of Dynamic Capabilities

Resource-Based View

A number of researchers build upon Ricardian perspective (Ricardo, 1817) which was later developed into a "resource-based view", in which picking the right resources is the main

way to generate economic wealth (Penrose, 1959; Barney, 1986a, 1986b and 1991; and Mata *et al.*, 1995). According to the Ricardian work, variations in performance are attributed to ownership of resources that have degrees of difference in productivity. The question of how firms come to own resources with heterogeneous productivity levels remained open for quite some time. It was finally addressed in 'strategic factor market' theory (Barney, 1986b). The essence of that theory is that there is only one non-random and methodical way for a company to come to own the set of resources capable of creating higher than average levels of return: the company should possess superior resource-picking skills as compared to its competitors. This can be done by methodically developing more precise expectations about the future value of resources than other players in the resource market. An important inference of the Ricardian-based theory is that the decisions related to creating economic rent take place before the acquisition of resources. So, firms either have superior resource-picking skill or possess unique information about the resources. Resource-based view emphasizes company-specific capabilities and assets and the existence of dividing devices as the basic determinants of company performance (Penrose, 1959; Birger, 1984; Rumelt, 1984; and Barney *et al.*, 2001). Resource-based view recognizes the nature of the isolating devices that allow entrepreneurial returns and competitive advantage to be unrelenting.

Challenges to Resource-Based View

There were some research works which challenged the Ricardian perspective with the Schumpeterian perspective (Schumpeter, 1950), which some authors believe was later developed into 'dynamic capabilities view' (Dierickx and Cool, 1989; Mahoney and Pandian, 1992; and Amit and Schoemaker, 1993). Schumpeterian dynamic capability framework draws attention to the significance of the alternative return generating system—capability-building—which has several distinctions from resource-picking. To make the discussion of 'resource' and 'capability' clear, let us review some definitions. Amit and Schoemaker (1993) referred to dynamic capabilities as: "A firm's capacity to deploy resources, usually in combination, using organizational processes, to effect a desired end. They are information-based, tangible or intangible processes that are firm-specific and are developed over time through complex interactions among the firm's resources. They can abstractly be thought of as 'intermediate goods' generated by the firm to provide enhanced productivity of its resources, and strategic flexibility and protection for its final product or service."

Capabilities

There are two main attributes distinguishing all other types of resources from a capability. First, a capability is company-specific and is rooted in organizational processes, while other resources may not be. And, because of this rootedness, capability may not be easily transferrable from one firm to another without also transferring ownership of the firm, or at least self-contained subsidiary of the organization. In this regard, Teece et al. (1997) stated "that which is distinctive cannot be bought and sold short of buying the firm itself, or one or more of its subunits." This suggests that if the company was to entirely disappear, its resources can be preserved in the hands of new owners while its capabilities would also dissolve. For instance,

if AMD Corporation disappeared, then its microprocessor patents would continue to exist and would just change the owner, but its skill in designing the new architecture of processors would vanish. AMD Corporation could easily transfer the rights of its microprocessor patents to a different corporation, but it cannot easily transfer the capability or the skill of devising new processors, unless it is willing to lose a core part of itself. The second distinctive attribute of a capability is to improve the efficiency of other resources that the company possesses—or so-called 'intermediate goods' equivalence (Amit and Schoemaker, 1993). Therefore, a dynamic capability is an evolving resource bundle that is organizationally embedded and firm-specific. The primary function of this capability is to advance the efficiency and/or effectiveness of the other resources possessed by the company so that rents are generated. These 'capabilities' cannot be bought; they must be built (Teece *et al.*, 1997). An example of the 'capability' can be Wal-Mart's in-house advancement of an exclusive 'cross-docking' logical system which increases the productivity of the firm's other resources, including real estate properties, its fleet of trucks, personnel and information technology (Stalk *et al.*, 1992).

An important distinction between resource-picking and capability-building is timing (see Figure 2). Resource-picking mechanism creates economic profits before the acquisition of resources. On the contrary, capability-building generates economic rent after the resources are possessed. And no matter how great a company's capabilities are, if the company fails to obtain needed resources it will not be able to utilize its capabilities.

Geographical Localization of Knowledge

Knowledge is 'Sticky'

Alfred Marshal, in his comparison of nations suggested that economic activity was drawn to regions rich in the 'atmosphere' of knowledge (Marshall, 1920). Search for knowledge spillovers made substantial success by finding statistical evidence that firms' productivity was linked if those firms were near outstanding universities and other sources of scientific discovery—geographically-localized spillovers of knowledge (Zucker *et al.*, 1998a). Geographically-localized knowledge spillovers were flourishing near great universities, but the presence of outstanding scientists as measured by research productivity was crucial factor over, above and independent from the presence of those schools and availability of government research funding to them (Zucker *et al.*, 1998b). Those outstanding researchers called 'stars,' are the scientists capable of inventing and commercializing breakthroughs, and by living in a particular place, they create a geographically-localized knowledge cluster.

Neo-economic theory suggests that by being in close proximity to universities where forward-looking research is taking place employees of local firms will be the first to be exposed to important discoveries and thus be able to use them before others (Zucker *et al.*, 1998). In a similar fashion, knowledge containing dynamic capabilities will be preserved near places with high concentration of corporate headquarters. One of the limitations of Zucker's model (1998) is that breakthrough information is treated as a public good, when in reality it may not be so.

Evidence that knowledge is 'sticky', and stays restrained within narrow spatial borders, led to conclude that plant locations can serve as a major source of competitive advantage and firms that located in innovative regions had better access to new technological knowledge than their spatially remote counterparts (Jaffe *et al.*, 1993; and Almeida, 1996). We can draw a parallel and argue that just like plant location, headquarter location can serve as a major source of competitive advantage by providing better access to knowledge containing dynamic capabilities.

A contrasting view that existence of agglomeration economies will motivate top firms not to geographically cluster, because firms contribute to and benefit from the externality in different ways (Shaver and Flyer, 2000). This implies that if firms are heterogeneous, the net benefit from agglomeration will vary. Therefore, large firms possessing best technologies, human resources, suppliers and distributors will have an incentive to locate distant from other firms, while smaller firms are likely to agglomerate.

Reexamination of the empirical evidence on the level of spatial spillover between research works of universities and high-technology innovations supported the view that knowledge is geographically-localized (Anselin *et al.*, 1997). Anselin *et al.* (1997) examined the potential for gravity and covering indices including Jaffe's 'geographical coincidence index' and argued that there is strong evidence of local spillovers even at a state level. Tacit nature of knowledge leads to technological opportunity suggesting that the suitability of knowledge is a key element for the location of innovation (Feldman, 2000). All these evidences on knowledge stickiness led researchers to conclude that innovative regions can serve as "magnets" to new investments (Almeida and Kogut, 1999; Shanmugasundaram and Balakrishnan, 2010; and Hossain *et al.*, 2012). in this paper, geographic-localization refers to the fact that knowledge stays restrained within spatial borders.

Knowledge and Corporate Headquarters

The annual rate of corporate headquarter relocations is significant and understudied. Strauss-Kahn and Vives (2009) analyzed 30,000 headquarters in the continental US and reported 1,500 headquarter relocations between 1996 and 2001. Headquarters were defined as a managing, administrative or marketing center of the company and therefore a company can have more than one headquarter. The median number of headquarters per company in the sample was fifteen.

In this paper, corporate headquarters are looked at as a primary element of relocation for three main reasons: (1) one out of every twenty headquarters, i.e., relatively high number relocate on a constant basis (Strauss-Kahn and Vives, 2009); (2) headquarters are knowledge intensive, and in some cases may be more knowledge intensive than R&D units (Baaij *et al.*, 2004); and (3) the studies that analyzed headquarter relocations did not study them from a knowledge-based perspective (Klier and Testa, 2002; Pirinsky and Wang, 2006; and Davis and Henderson, 2008).

Headquarter relocations take place for a number of reasons. Some researchers suggested tax advantages as the main reason to relocate headquarters (Chan *et al.*, 1995; and Voget,

2008). While there are studies that suggest that headquarters relocate to places to be closer to (1) specialized business services and (2) presence of other headquarters. The first element, business services, can create spillovers of business knowledge that firms exploit. The second element causes externalities among headquarters due to interpersonal interactions (Dekle and Eaton, 1999; Kolko, 1999; and Adserà, 2000). And those externalities are the knowledge that is transferred from one company to another, including dynamic capabilities. Further, there is evidence that headquarters gain from the presence of diversified service inputs and geographic proximity, which leads to informal information exchanges (Lovely *et al.*, 2005). The analysis of headquarter relocations is linked with the analysis of R&D relocations, where the exchange of knowledge that is tacit and hard to codify is the key element (Glaeser, 1999; and Cremer *et al.*, 2004). These works suggest that headquarter relocations may also view 'soft' knowledge and dynamic capabilities, which can be learned as a key strategic element of the decision-making process.

Why Firms Relocate Headquarters?

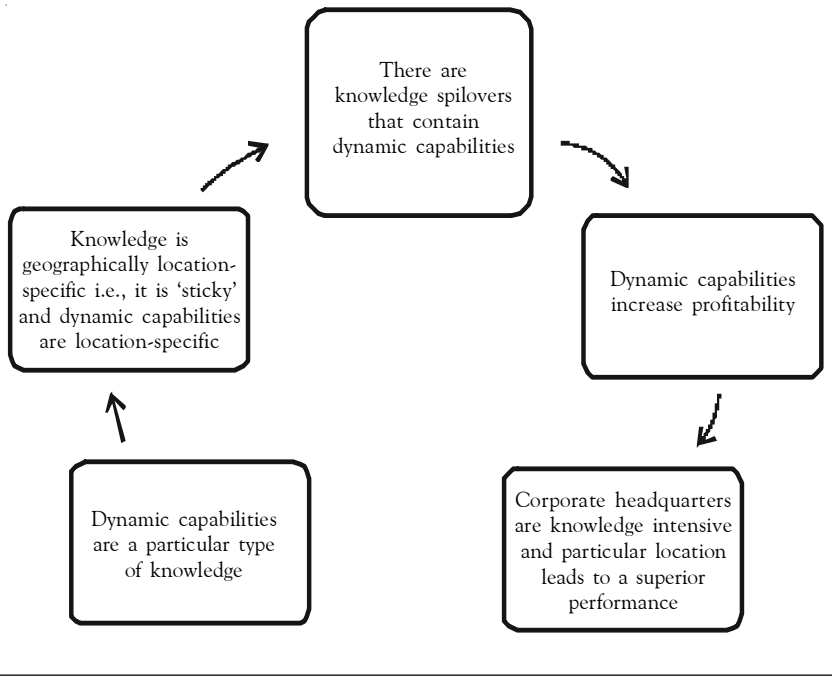
When Boeing was making the decision of moving its main headquarter from Seattle, it encouraged competition among Dallas, Denver and Chicago as a possible location. Chicago offered a generous $50 mn incentives package (Garcia-Mila *et al.*, 2002). According to Strauss-Kahn and Vives (2009), the weaknesses of Chicago were wage rates, relatively high taxes and less specialization in transport equipment. In contrast, the strengths of such a relocation were: (1) concentration of other headquarters, (2) higher specialization on finance and business services, and (3) the transportation hub of O'Hara. Ultimately, Boeing chose to relocate its headquarters to Chicago. Therefore, this anecdote demonstrates the potential knowledge benefits of relocating the headquarters for a firm.

Studies on corporate headquarter relocations found that the stock market reacts quickly to relocation news (Ghosh *et al.*, 1995). In particular, the stock market response was significantly positive if relocation decisions were recognized as cost savings, suggesting that available savings of costs at less central sites compensate any loss of enrichments related with spatial clustering in urban centers. However, decisions prompted by managerial self-centeredness and craving for lavish offices elicited an unfavorable reactions from investors (Ghosh *et al.,* 1995). Prompt reaction of the stock market for corporate relocations suggests that investors perceive geographical agglomerations and relocations of headquarters as either value adding or value reducing activity. Value increase or decrease depends on the level of co-movement in the stock returns of relocating company with returns of firms from the same geographic area (Pirinsky and Wang, 2006). A study on corporate headquarters relocation found distinct changes in metropolitan corporate dominance over historical period of 1921-1987 (Holloway and Wheeler, 1991), arguing that at different time periods firms relocate more or less frequently. One may argue that when market volatility increases, firms' move more frequently, and those are the times when importance of dynamic capabilities higher. In volatile conditions, firms move frequently to find locations where knowledge spillovers may provide dynamic capabilities.

Relocations of corporate headquarters can serve a number of strategic purposes. Among others seeking a location where dynamic capabilities are more aligned with corporate strategy

can be a substantial reason. In this paper, it is argued that dynamic capabilities are a specific type of knowledge that (among other factors) are influenced by geographic location. Current empirical evidence provides support for the idea that knowledge exists in particular geographic locations, usually near universities and research centers. Further, statistical evidence point at the fact that majority of corporate headquarter relocations take place due to the shortage of qualified labor force. And those qualified people possess knowledge that firms employ, including factual knowledge and architectural knowledge—which breeds dynamic capabilities (Figure 3). All these facts imply that dynamic capabilities can be location-specific, which would mean that firms need to relocate headquarters to particular geographic places in order to be able to build needed dynamic capabilities faster. This also means that more successful firms might be the ones that are quick in moving to specific regions where dynamic capabilities flourish.

Figure 3: Theoretical Framework

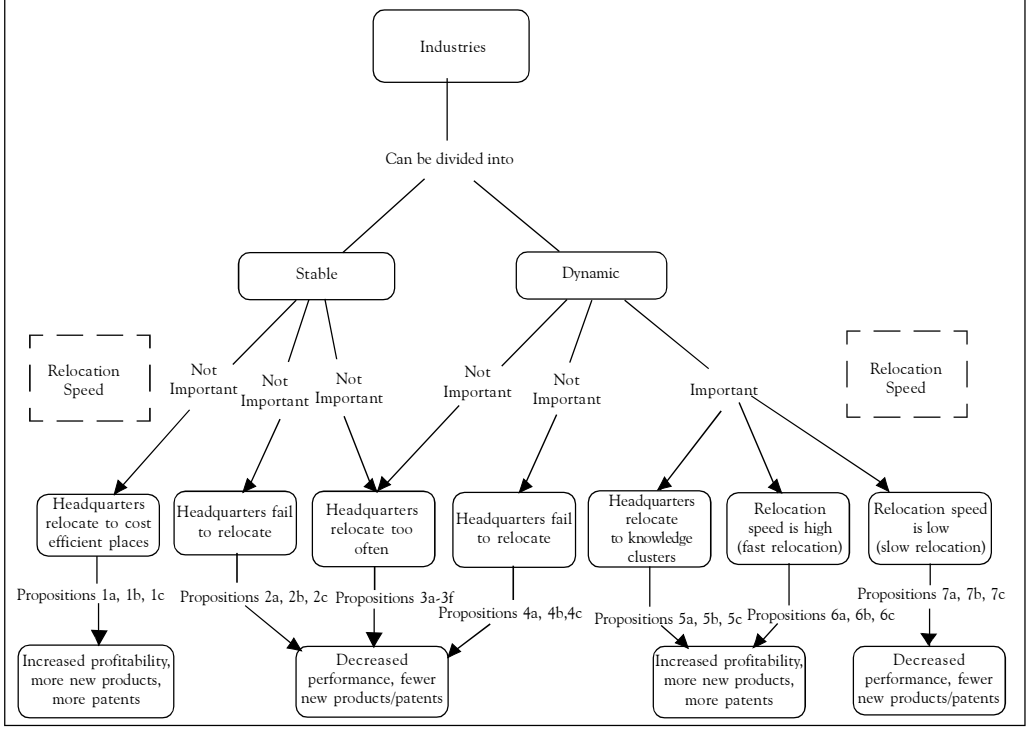


Stable and Dynamic Industries

The pattern of dynamic capabilities seems to vary with market dynamism. In stable industries, when markets are not active, dynamic capabilities look like traditional notions of routines (Cyert and March, 1963; and Nelson and Winter, 1982). This suggests that dynamic capabilities are complex, tacit, analytic processes that are based broadly on obtained knowledge to produce conventional outcomes. On the contrary, in high-velocity environments of market interactions with unclear industry structures, dynamic capabilities look different from routines (Eisenhardt, 1989). They are uncomplicated, observed, unstable processes that are based on rapidly generated new knowledge and iterative implementations to create adaptive but

unpredictable outcomes (Figure 4). The labor force needed to implement these dynamic capabilities should have the ability to come up with creative solutions quickly, suggesting higher levels of training and education. In both cases, learning loops guide the development of dynamic capabilities (Eisenhardt and Martin, 2000).

Figure 4: Propositions



One of the ways to test the following propositions, that headquarter relocations can bring measurable benefits, is by employing networks theory, in particular two dimensions that influence the possibility of information flow across knowledge networks: (1) centrality and (2) spanning structural holes (Burt, 1997; and Sorenson and Stuart, 2001). For example, relocation of the headquarter to geographically agglomerated knowledge cluster can be looked at as increase in centrality in knowledge network.

Propositions

In this section, propositions for dynamic and stable industries with corresponding relocation speed would be discussed. Networks of managers pass knowledge related to efficiency of operations and 'architectural' innovations (see Figure 4).

Headquarters Relocate to Cost-Efficient Places

Proposition 1a: Firms operating in stable industries that relocate their headquarters to regions with lower costs of labor, land and capital would have higher profitability ratios than similar firms that did not relocate headquarters.

Using only profitability ratios as the dependent variable can cause measurement problems because there are a number of variables that affect profitability ratios and controlling all of them can be a dubious task. Moreover, factors influencing profitability ratios are both internal and external to the company, which makes measurement even harder. That is why supporting propositions are developed with different dependent variables, namely, number of new products introduced and/or number of patents applied.

Proposition 1b: Firms operating in stable industries that relocate their headquarters to regions with lower costs of labor, land and capital would have higher number of new products introduced than similar firms that did not relocate headquarters.

Proposition 1c: Firms operating in stable industries that relocate their headquarters to regions with lower costs of labor, land and capital would have higher number of patents applied than similar firms that did not relocate headquarters.

These can be locations where the labor force less educated, a land and employees are less expensive, or these can be locations further away from geographically agglomerated places. Propositions one suggest that in stable industries, where dynamic capabilities are routines, highly educated and costly labor force might not contribute to corporate profitability and development of simple routines that lead to innovations in that particular environment. When company is operating in stable industry but located in the area with highly educated labor force, failure to relocate from that area will lead to lower profitability due to higher costs of labor.

Headquarters Fail to Relocate

Proposition 2a: Firms operating in stable industries that fail to relocate their headquarters to regions with lower costs of labor, land and capital would have lower profitability ratios than similar firms that did relocate headquarters.

Lower profitability of a company may force the company to layoff people, so if the company will not move its headquarters to places with lower costs of labor and capital it may end up laying off people, which will decrease morale and motivation of the workforce. Also, being in the 'wrong' place for a particular type of knowledge may cause negative knowledge externalities. For instance, managers are exposed to knowledge that does not contribute to product-market mix of the company's.

Proposition 2b: Firms operating in stable industries that fail to relocate their headquarters to regions with lower costs of labor, land and capital would have lower number of new products introduced than similar firms that did relocate headquarters.

Proposition 2c: Firms operating in stable industries that fail to relocate their headquarters to regions with lower costs of labor, land and capital would have lower number of patents applied than similar firms that did not relocate headquarters.

The stream of knowledge that takes place among actors of an organizational network effects the creation of new knowledge (Allen and Cohen, 1969; and Walker, 1985). Networks of inventors within and between firms can be based on ties such as belongingness to the same division, friendship, co-parenting, collaboration and so on. It is argued in this paper that

networks of corporate executives function in the same way, and managers in those networks become nodes of the information exchange. Social capital can be a strong aiding factor for attainment, incorporation and discharge of resources at the center of a dynamic capability. Actors or managers have a choice of using social capital to maximize personal gains. So, social capital may be an important element of rent creation and rent usage (Blyler and Coff, 2003). Use of social networks that smooth the progress of knowledge integration (Grant, 1996) was associated with forms that successful firms undertake.

Too many relocations can harm the company, because relocation is costly and building networks to transfer dynamic capabilities takes time (Quark, 2007). In addition relocations have pronounced negative emotional impact on employees (Ammons *et al*., 1982), before they are embedded into a new network (Bloom, 2005). To establish networks and to be able to integrate available knowledge, i.e., build dynamic capabilities, time lag is needed. Propositions 3a to 3f take into account that relocations carry significant costs, and so if done too often those costs will result in lower profitability ratios, lower number of new products introduced and lower number of patents applied.

Headquarters Relocate Too Often

Proposition 3a: Firms in stable industries that relocate headquarters before networks are established and gains from networks are realized may not be able to access the knowledge advantages available in a certain location and so they would have lower relative profitability ratios.

Proposition 3b: Firms in stable industries that relocate headquarters before networks are established and gains from networks are realized may not be able to access the knowledge advantages available in a certain location and so they would have lower number of new products introduced.

Proposition 3c: Firms in stable industries that relocate headquarters before networks are established and gains from networks are realized may not be able to access the knowledge advantages available in a certain location and so they would have lower number of patents applied.

Proposition 3d: Firms in dynamic industries that relocate headquarters before networks are established and gains from networks are realized may not be able to access the knowledge advantages available in a certain location and so they would have lower relative profitability ratios.

Proposition 3e: Firms in dynamic industries that relocate headquarters before networks are established and gains from networks are realized may not be able to access the knowledge advantages available in a certain location and so they would have lower number of new products introduced.

Proposition 3f: Firms in dynamic industries that relocate headquarters before networks are established and gains from networks are realized may not be able to access the knowledge advantages available in a certain location and so they would have lower number of patents applied.

A dynamic capability is a special type of knowledge which can greatly enhance company's success. Research studies on knowledge suggest that knowledge might be geographically localized, and more successful firms may be purposely locating their facilities in knowledge-intensive districts or regional clusters (Anselin *et al.*, 1997; Almeida and Kogut, 1999; and Keller, 2002). Knowledge was distinguished between component and architectural knowledge. Most research works on knowledge stickiness and regional clusters refer to component knowledge. While dynamic capabilities can be looked at as architectural knowledge. For a company to be truly successful, it should be able to use and process both component and architectural knowledge. If a company is good in component knowledge, but not good in architectural knowledge there would be a lot of brilliant ideas, possible advantages of which will be lost in the process of implementation. Since there is overwhelming evidence that firms in knowledge intensive regional clusters outperform competitors who are not in close proximity (Anselin *et al.*, 1997), it must be the case that those firms are good in both component and architectural knowledge, which means that they have higher level of knowledge containing dynamic capabilities. This makes dynamic capabilities specific to geographic region and it also makes firms operating in dynamic industries more dependent on knowledge clusters where spillovers of dynamic capabilities takes place. And if a company fails to relocate headquarters it will suffer consequences.

Headquarters Fail to Relocate (Dynamic Industries)

Proposition 4a: Firms operating in dynamic industries that fail to relocate their headquarters to regions with relevant knowledge clusters will have lower profitability ratios than similar firms that did relocate headquarters.

If a company does not take advantage of relocating its headquarters, managers working for that company would have fewer opportunities for a white-collar information-intensive networking that transfers some of the dynamic capabilities. As a result, those firms would have lower profitability ratios.

Proposition 4b: Firms operating in dynamic industries that fail to relocate their headquarters to regions with relevant knowledge clusters will have lower number of new products introduced than similar firms that did relocate headquarters.

Proposition 4c: Firms operating in dynamic industries that fail to relocate their headquarters to regions with relevant knowledge clusters will have lower number of patents applied than similar firms that did relocate headquarters.

When a company successfully relocates to knowledge clusters, it will enjoy benefits of knowledge spillovers that will contain dynamic capabilities.

Headquarters Relocate to Knowledge Clusters

Proposition 5a: Firms operating in dynamic industries that relocate their headquarters to regions with relevant knowledge clusters will have higher profitability ratios than similar firms that did not relocate headquarters.

Proposition 5b: Firms operating in dynamic industries that relocate their headquarters to regions with relevant knowledge clusters will have higher number of new products introduced than similar firms that did relocate headquarters.

Proposition 5c: Firms operating in dynamic industries that relocate their headquarters to regions with relevant knowledge clusters will have higher number of patents applied than similar firms that did relocate headquarters.

Propositions 6a to 6c is related to remark made by Thomas, who suggested that "the big do not outperform the small, the fast outperform the slow" (Thomas and Martin, 1990). These propositions bring new aspect, the speed of relocation. In dynamic industries, speed of relocation can be crucial, because in addition to relevant knowledge, it will give firms first mover advantages, and there are overwhelming empirical evidences that in dynamic industries first mover advantages preserved over time in the form of higher prices and larger market shares (Makadok, 1998).

Relocation Speed is High

Proposition 6a: Firms that operate in dynamic industries and relocate quickly to geographically agglomerated knowledge clusters will have higher profitability ratios than firms that relocate slower.

Proposition 6b: Firms that operate in dynamic industries and relocate quickly to geographically agglomerated knowledge clusters will have higher number of new products introduced than firms that relocate slower.

Proposition 6c: Firms that operate in dynamic industries and relocate quickly to geographically agglomerated knowledge clusters will have higher number of patents applied and registered than firms that relocate slower.

Just like fast relocation can provide advantage, slow relocation can lead to delayed process of integration into the local network, and will result in losing opportunities that were present to competitors who were able to integrate quickly.

Relocation Speed is Low

Proposition 7a: Firms that operate in dynamic industries and relocate slowly to geographically agglomerated knowledge clusters will have lower profitability ratios than firms that relocate quickly.

Proposition 7b: Firms that operate in dynamic industries and relocate slowly to geographically agglomerated knowledge clusters will have lower number of new products introduced than firms that relocate quickly.

Proposition 7c: Firms that operate in dynamic industries and relocate slowly to geographically agglomerated knowledge clusters will have lower number of patents applied and registered than firms that relocate quickly.

Geographically agglomerated knowledge clusters generally are highly innovative locations. These propositions are based on the idea that any knowledge-based research should start

from individuals rather than collective levels in understanding novel value creation (Felin and Hesterly, 2007). Individual knowledge by its nature is not fully environmentally determined or socially constructed. This individual level of analyzing knowledge creation raises questions, like how to measure individual knowledge or does individual knowledge translates into company knowledge (Felin and Hesterly, 2007).

Conclusion

Geographic agglomeration of knowledge was linked with locations of R&D facilities, and the underlying assumption was that scientists communicate informally with one another causing spillover of knowledge. There is empirical evidence that 5% of headquarters relocate constantly, and those relocations are directed to places where other headquarters are located, which suggests that firms are possibly relocating to access-specific knowledge. When headquarters are in close proximity, managers may meet informally and communicate, for instance on the golf courses. During those communications, operational routines on how to use various resources can be exchanged and so dynamic capabilities can be transferred. This also suggests that dynamic capabilities are both company- and location-specific.

Putting research on knowledge clusters and dynamic capabilities into one framework is one of the theoretical contributions of this paper to the field of strategic management. In the past, spillover of knowledge was studied mainly on R&D functions and was linked to innovations implying new and unique products. This paper advances the idea that spillover of knowledge can be of operational or efficiency-related nature and so can transfer dynamic capabilities possessed by one company to another one in close geographic proximity. Practical contributions of this work include deeper analysis of relocation decisions, and possibly explain cases when firms relocate to places that give no tax advantages.

Limitations: One of the limitations of this work is the assumption that all headquarters carry similar functions. In many ways, it is important if a headquarter function is a primary or secondary activity of the company. Headquarters that are in charge of the secondary activities can be less important, and their relocations can have a much smaller impact on the level of innovative ideas or profitability. ✪

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