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ABSTRACT

A key question for organizational learning research is to determine the conditions under which firms are able to gain information from the activities and performance of other firms and then use what they learn to guide their own strategy. In this paper, we ask whether firms will respond differently, based on the proximity of their headquarters to the given market, to information contained in exits of business outlets from that market when choosing a location for a new outlet in that market. Using entry and exit data from the Texas drug store industry, we find that (1) entrants with more distant headquarters are more likely to locate closer to the site of recent dissolutions of other stores, and (2) entrants are more likely to avoid dissolutions that were locally headquartered. We interpret these results as support for two main hypotheses: First, distantly headquartered firms are less likely to be aware of recent dissolutions than are locally headquartered firms. Second, locally headquartered dissolutions convey more information that the surrounding area is not viable for the location of a new outlet. These findings identify an important type of local knowledge that allows local firms to compete in their home markets with much larger distantly headquartered firms.
Recent research in strategy, economics, and organizational theory has begun to explore many aspects of the nature, sources, and effects of organizational learning (Huber, 1991). A substantial body of research suggests that much of what a firm learns derives from its own experience (March, 1991; Levinthal and March, 1993). Nonetheless, a key question for organizational learning research is to determine the conditions under which firms are able to gain information from the activities and performance of other firms and then use what they learn to guide their own strategy (Daft and Weick, 1984; Argote, Beckman, and Epple, 1990; Griliches, 1992; Cyert, Kumar, and Williams, 1993; Miner and Haunschild, 1995). Dodgson (1993) refers to the phenomenon of gaining information from other firms’ experience as vicarious learning. One type of vicarious learning arises when firms use information about other firm’s activities and performance to influence their own decisions regarding entry into a particular geographic or product market. Empirical economic analysis suggests that availability of information showing that incumbent firms enjoy high profitability in a market often leads to increased entry into that market (Strassmann, 1990; Berry, 1992). Similarly, population ecologists argue that information concerning reduced competition in a product market niches may induce entry into that niche (Carroll and Hannan, 1989). In addition, strategy research shows that firms often adjust their market positions based on the moves of their competitors (Miller and Chen, 1994) and may learn from spillovers of competitors’ activities (Henderson and Cockburn, 1996; Ingram and Baum, 1997; Shaver, Mitchell, and Yeung, 1997). This research clearly suggests that firms sometimes use sources of vicarious learning to influence their entry strategies. However, there is little consensus about why different firms respond differently to what is seemingly the same information. In this study, we assess how the release of vicarious information will influence the entry decisions of different types of firms.

In particular, we ask whether a firm’s ability to collect and interpret information contained in exits of business outlets, such as retail stores or restaurants, varies with greater distance from the local market to a firm’s headquarters or to its closest existing outlet. We predict that if this ability does vary, then firms will also vary in their likelihood to choose locations for new outlets in the vicinities of those exits. We test the
predictions with histories of entry of 1100 drug stores in the State of Texas between 1991 and 1997. The study suggests sources of heterogeneous access to information that lead to differential actions and performance by firms that compete within the same markets.

The paper draws from and contributes to ideas from several related literatures. The international entry mode literature long has recognized that local knowledge may create obstacles to the expansion of multinational firms (Kogut and Singh, 1988). The literature on knowledge spillovers has identified geographic distance (Jaffe, Trajtenberg, and Henderson, 1993) and national borders (Shaver, 1994) as barriers to diffusion and interpretation of information. The ecological literature has studied the effects of firm exits upon future entry (Delacroix and Carroll, 1983) and the sources of distinct niches within which different types of organizational forms compete (Hannan and Freeman, 1989; Hannan and Carroll, 1992). The organizational learning literature has proposed that certain firm attributes and actions, such as in house R&D spending (Cohen and Levinthal, 1990), give a firm “absorptive capacity” that allows the firm to learn about its environment. Location of an outlet near a firm’s headquarters may allow the firm to exploit absorptive capacity that exists for the firm in the vicinity of its headquarters. Finally, the organizational size literature has proposed several explanations of the ability of small firms to compete with large firms (Woo and Cooper, 1981; Fiegenbaum and Karnani, 1991). We hope the study will contribute to these literature streams by identifying knowledge of market exits as an important type of local knowledge and by providing a new reason why locally headquartered firms can often compete with larger distantly headquartered firms in local markets.

The discussion of this paper proceeds as follows. The second section discusses the scope of our study, including the relevant constraints, assumptions, and definitions. The third section discusses the international and domestic literatures that we draw upon and to which we contribute. The fourth section develops and proposes specific hypotheses related to the relationship between outlet exits in a market and a firm’s choices of location for new outlets in that market. The fifth and sixth sections discuss the data, the methods, and the results. We conclude by discussing the relevance of this study to domestic and international strategy literatures.
SCOPE AND DEFINITIONS

At the outset, let us outline the scope and key definitions of our approach. The analysis in this paper focuses on lines of business with homogeneous product-markets. Such firms will be highly concerned with the entries and exits of outlets in their product markets. We have identified drug stores as an industry with an acceptable level of product homogeneity. Walgreen’s and Rite Aid Drug Stores, for example, will be concerned about the exits of small locally-owned drug stores because the prescriptions that they fill are likely to be the same drugs that the locally-owned stores offer, provided to similar customers. CareData Reports recently surveyed 19,000 pharmacy customers on 218 issues related to their pharmacy preferences. The key finding is that location of a drug store plays the greatest role in a customer’s selection of that store. Customers are willing to switch between ‘mom and pop’ and chain stores based on convenience.¹

We recognize that there is often a fine line between homogeneity and heterogeneity of product markets. Certainly, chains such as Walgreen’s possess brand equity and a product-mix that differentiates them to some extent from locally owned outlets. Nonetheless, the CareData survey that we cited above indicates that in the retail drug store industry, locally and distantly headquartered firms offer similar goods at similar prices, with at least a reasonable degree of substitutability in the minds of consumers. In a qualitative sense, the discriminating characteristic between homogeneity and heterogeneity is akin to the question that the U.S. Department of Justice (1992) asks when attempting to assess the whether a market is competitive, which is whether a limited change in price by one firm would affect consumers’ purchase decisions. For us, the relevant question is whether a limited change in location, price, and quality of service by a distantly headquartered firm would make a consumer more likely to purchase similar goods from a locally owned outlet. Drug stores satisfy these criteria.

We note our outlet-based definition of business dynamics. As we noted above, a business outlet is a specific sales location. In our approach, entries and exits occur at the level of the business outlet. Thus, exits entail the exit of an entire firm only if the firm has a single outlet. Further, an exit occurs if a business outlet is dissolved, that is, it ceases to

¹ “Location, insurance drive pharmacy choice”, April 5, 1999, Drug Store News, p. 10(1)
operate at a particular physical location. We do not define cases as exits if outlets continue to operate at the same location under new ownership, which will often be divestitures rather than dissolutions. Finally, we treat entries by new firms and entries by existing firms as equivalent cases, that is, cases in which a firm comes into existence through the establishment of its first outlet and cases in which an existing firm opens a new outlet.

RELEVANT LITERATURES

The concept of distance-based information asymmetry closely relates to the literature on spillovers, which has domestic and international applications. A spillover is knowledge that at one point is firm-specific or location-specific, but over time diffuses to other firms, typically to those firms that are also geographically close. Irwin and Klenow (1994) estimate that for every additional semiconductor made by an American firm, for instance, other firms learn one-third as much as the producing firm. Interestingly, they find that Japanese-owned firms learned just as much as American-owned firms, suggesting that distant ownership had little impact on vicarious learning in the semiconductor case. On the other hand, Jaffe, Trajtenberg, and Henderson (1993) find that distantly-headquartered firms receive knowledge of innovation later than nearby firms, as evidenced by U.S. patent citations. Jaffe and Trajtenberg (1998) extend this study and find that the relationship holds as well in France and the United Kingdom. Thus, distantly-headquartered firms may receive information at a lag, even if they do receive the information. In addition, foreign firms that already have a presence in a host country in another line of business will be more likely to benefit from spillovers regarding the given line of business because their local vantage gives them the ability to learn from the mistakes of other firms (Shaver, 1994; Shaver, Mitchell, and Yeung, 1997). The current local participants can watch other firms make mistakes in the given country and alter their behavior as a result. Not only are local participants able to receive information more quickly than the firm with no existing local outlets, but they can interpret it more effectively. This study complements the results of the spillover literature by providing more evidence that locally headquartered firms react more quickly to specific events than distantly-headquartered firms do.
This study also contributes to the conceptual base of the international business literature by identifying a specific component of local knowledge. The international literature often mentions local knowledge as a key influence on strategy and performance (Caves, 1971), but rarely identifies specific components of local knowledge or tests their importance. A common approach to the understanding of local knowledge is to link the knowledge to a measure of cultural distance, such as a four-dimensional index of differences in values and attitudes between nations (Hofstede, 1980). The higher the cultural distance, the more that local knowledge is likely to provide advantages, because the knowledge diffuses more slowly. Thus, Kogut and Singh (1988) found that the greater the cultural distance between two countries, the less likely it is that a firm from one country will expand via direct investment into the other. Li and Guisinger (1992) found that the level of service foreign investment in developed countries is negatively related to the cultural distance between the home and host countries. These studies show that organizational forms or investment patterns co-vary with certain measures of cultural distance, but do not identify specific types of information that can or cannot be conveyed because of the cultural distance. This study will contribute to this literature if we can show that locally headquartered firms are more likely to take exits of their competitors into account when making location decisions than distantly headquartered firms are likely to do.

Similarly, this paper will contribute to the organizational learning literature by providing evidence that a firm’s headquarters can provide a source of absorptive capacity about business conditions in the area surrounding the headquarters. In the seminal paper on absorptive capacity, Cohen and Levinthal (1990) find that conducting in-house R&D activity can add lead to an increase in absorptive capacity for innovation, that is, observing, interpreting and exploiting appropriately opportunities that result from new information. We believe that much like R&D spending, a near-by headquarters location provides a similar increase in absorptive capacity. Brickley and Dark's (1986) paper reports results about outlet location consistent with the absorptive capacity argument, by showing that restaurant chains are particularly likely to franchise outlets distant from headquarters to local owners, where the chains' managers will not be able to learn about
the area. In this study, we provide evidence of a choice that firms will make differently based on the level of absorptive capacity: the distance of their new outlets to the sites of recent exits.

So far, we have only discussed the benefits in a given market that firms with local headquarters or with existing outlets in the local area may gain relative to firms without such local vantage points. If the firms without local vantage points had no countervailing advantages, they would not enter a market in which they were at such an information disadvantage. Yet, firms routinely open outlets in markets faraway from any existing operations. Clearly, scale provides a major advantage for many such firms. Thus, the combination of local information advantages and scale advantages yields landscapes in which locally and distantly headquartered firms compete with each other in local markets. The strategy literature has identified attributes that allow small firms to compete with larger firms. Woo and Cooper (1981) found that effective low-share household appliance manufacturers were able to differentiate themselves in marketing, product value, and market niche selection. Fiegenbaum and Karnani (1991) show that small firms may be more flexible in production than large firms. If successful, this study will add another dimension to the small firm’s competitive ability and may recast the debate from the size of the firm to the geographic dispersion of the firm.

HYPOTHESES

Reactions by new entrants to exits of outlets

We predict that the potential entrants partly base the decision whether to enter a market and where to locate within that market on the locations of exits in the previous periods. The organization ecology literature has most closely studied similar phenomena. Carroll and Delacroix (1983) find that entry rates can be an inverse U-shaped function of exit rates in the previous period. They explain this pattern as the result of two opposing effects: resource availability and information concerning insufficient demand. First, at a low level of exits, more resources such as customers and specialized workers become available for new organizations. Second, a high exit rate provides a signal of the
“noxious countervailing force” of insufficient demand in the environment (Carroll and Delacroix, 1983: 279).

Mitchell, Shaver, and Yeung (1994) group the mistakes that cause market exits into two broad categories: exits occur because (1) the firm has overestimated the demand of a market that in fact has insufficient demand, or (2) the managers of the firm made poor decisions following the entry. We argue that exits due to insufficient demand are more likely to take the form of dissolutions. If the exits result from poor managerial decisions, the resource availability effect will dominate the insufficient demand effect and potential entrants may interpret this as an opportunity. As a result, entrants are likely to buy the outlet and keep a majority of the assets intact. In particular, they are likely to continue running the same type of business from that outlet. On the other hand, if the exits result from insufficient aggregate demand in a geographic area for the particular good, potential entrants will not be interested in buying the particular outlet in order to run the same type of business. As a result, the exited unit is most likely to be dissolved, that is, it will remain vacant or be filled with a business of a different type. Thus, by studying only exits that are dissolutions, we can focus on only one dimension of Carroll and Delacroix’ inverse U-shaped entry function: the case of insufficient demand.

Potential entrants who reside in the local community usually can remember or find out where dissolutions have taken place by their absorptive capacity stemming from presence in the community. First, they may simply see the dissolution occur. Further, as local residents, the managers or owners often have social connections within the community that provide information about the reasons for the outlet exit and about trends in local demand. By contrast, owners and managers who reside distantly from the local market are more likely to obtain at best an occasional snapshot of the activities and performance of outlets and aggregate trends in that market. Distantly headquartered firms often must rely on secondary sources available at their firm headquarters location or receive imperfect information from managers of any existing local outlets. If information cannot be gleaned from the two vantage points headquarters and any local outlets, distantly headquartered firms may be unaware of the dissolutions altogether. We hypothesize that the smaller the distance from the two vantage points, the greater the
amount of information that will be available to the firm and its managers, and the more likely they will be able to avoid location in areas where recent exits have taken place.

The following hypotheses all predict a relationship between the distance from the location of a new outlet to the location of the closest exit in a given time period and other distances that are relevant to the entering firm’s choice of location. Hypotheses 1a and 1b relate the new outlet-closest exit distance in a recent time period to the distance of closest vantage points of the firm. Hypotheses 2a and 2b develops predictions for this same relationship, but changing the time of the closest exit to an earlier period. Finally, the two alternative versions of hypothesis 3 present different possible relationships between the new outlet-closest exit distance and the distance of the exiting outlet’s distance to its headquarters. The dependent variables in all tests of the hypotheses are distance from a new outlet to the closest dissolution in the 12 months previous to the month of the entry.

**Hypothesis 1a:** The greater the distance between a firm’s headquarters and the location of a new outlet owned by that firm, the smaller the distance from the new outlet to the location of a recently dissolved outlet.

**Hypothesis 1b:** The greater the distance between a firm’s closest existing outlet and the location of a new outlet owned by that firm, the smaller the distance from the new outlet to the location of a recently dissolved outlet.

Distantly headquartered firms will find it more difficult than locally headquartered firms to directly perceive outlet dissolutions. However, as we mentioned earlier, distantly headquartered firms may be able to compete locally because they are larger. Greater financial resources, often correlated with large size, may allow firms to acquire entry and exit information from secondary sources, such as market studies and consulting firms. Thus, they may be able to gather information and act upon it without being present in the local area. However, the need to gather information will delay their response because the collection and analysis of secondary sources takes time. Thus, we expect that a distantly headquartered entrant may respond to local exits, but the response will occur at a lag relative to locally headquartered outlet entry. Thus, both local and distantly headquartered firm can respond to older firm exits.
**Hypothesis 2a:** The distance between a firm’s headquarters and the location of a new outlet owned by that firm will not have an effect on the distance from the new outlet to the location of an outlet dissolved in an earlier time period.

**Hypothesis 2b:** The distance between a firm’s closest existing outlet and the location of a new outlet owned by that firm will not have an effect on the distance from the new outlet to the location of an outlet dissolved in an earlier time period.

**Reaction to exits of distantly and locally-headquartered outlets**

So far, we have considered all dissolved exits to be homogeneous: the only relevant characteristic was how distant the exit was from the location of a new entrant. However, the information contained in distantly headquartered outlet dissolutions may be different from that of locally headquartered dissolutions. Distantly headquartered outlet dissolutions may occur for reasons that differ from locally headquartered outlet exits, even if the products are homogeneous. For example, if the distantly headquartered firm may be in trouble as a whole, the firm may close a local outlet, despite possible continued viability of outlets in the area. Even if the geographic area is viable, however, distantly headquartered firms may have misconfigured the outlet, so that the most productive use of the assets is not a continuation of the same business under a new owner. Thus, distantly headquartered firms may be more likely to be dissolutions, even in cases where the area is viable, and entrants may be less likely to interpret such dissolutions as a warning of market problems.

**Hypothesis 3:** The more distant the headquarters of the dissolved outlet, the smaller the distance from the new outlet to the location of a recently dissolved outlet.

On the other hand, distantly headquartered firms are more likely to have geographically diffused operations than locally headquartered firms, because a firm headquarters will have only a limited number of retail outlets in its immediate vicinity. The other outlets of that firm are necessarily distant. An implication of this difference is that distantly headquartered firms are more likely to know about the recent outlet-level entries and exits of their other diffuse competitors, rather than the recent entries of locally headquartered outlets. This difference can occur because the distantly headquartered
firms are involved in multipoint competition with each other (Karnani and Wernerfelt, 1985; Bernheim and Whinston, 1990). Alternatively, even if they do not directly compete in many areas, firms with diffuse operations may act as a benchmarking reference group to other diffuse firms in an industry (Fiegenbaum and Thomas, 1995; Davis and Greve, 1997). The diffuse firms may read of each other’s condition in trade journals or general business publications. Therefore, managers of distantly headquartered firms will be more aware of and more likely to react to distantly headquartered dissolutions.

**Hypothesis 3 (alt):** The more distant the headquarters of the dissolved outlet, the greater the distance from the new outlet of a distantly headquartered firm to the location of a recently dissolved outlet.

In summary, we expect outlet dissolutions to lead to lower subsequent entry in their immediate vicinity. We also expect that information collection and assessment capabilities of firms will differ based on distance to the firm’s closest vantage point. Typically, we expect firms with less information to locate more closely to recent exits. Further, the measure of closeness of the location may be partly an effect of the distance to headquarters of the dissolved outlet and partly an effect of distance to other outlets that firms own. The predictions help identify potential sources of vicarious learning and assess how the release of vicarious information will influence the decisions of different types of firms.

**DATA AND METHODS**

We test these hypotheses using a large sample of longitudinal data. Our data consists of a record of all drug stores that operated in the State of Texas between 1991 and 1997 including all those that entered and exited. In total, this consists of about 4300 existing outlets owned by over 2200 firms. In the 1991-1997 period, there were 1099 usable new entries and 1830 dissolutions. In addition to entry and exit dates, our data includes the owner name, business name, outlet address, and headquarters address for each outlet. We converted the addresses of both the outlets and the headquarters to latitude and longitude coordinates by the process of geocoding, which allows us to measure exact distances between entries and exits.
Each observation is an entry of an outlet between 1992 and 1998. We calculated the dependent variable and the independent variables of theoretical interest by measuring the geographic distance between various outlets and headquarters that are relevant to a particular new entrant. The dependent variable is the distance from the new outlet to the closest dissolution in the 12 months previous to the month of the entry. The lagged dependent variable is the distance from the new outlet to the closest dissolution that took place from 12 to 24 months previous to the month of the entry.

The independent variables of theoretical interest include other attributes of an entering firm’s and exited firm’s geographical configuration such as the distance between the outlets and their respective headquarters location. We also use a discrete independent variable as an alternative to geographical distance: whether or not the firm headquarters of the new outlet is located in Texas. We include the control variables because closeness to a recent exit is likely to correlate with closeness to locations of high economic activity. This correlation could confound the interpretation of results consistent with or contrary to our hypotheses. We use a distance variable as the primary control variable: the average distance between the location of the new outlet and the two closest existing outlets regardless of who owns them. The other control variables are a measure of population density for the zip code in which a new outlet lies and a dummy variable indicating whether the location of the new outlet is in a Metropolitan Statistical Area.\(^2\) Table 1 and Figure 1 describe the variables.

We use ordinary least squares to establish a relationship between the independent and dependent variables. The ideal methods to use to establish this relationship would be a discrete-choice model such as McFadden’s (1974) conditional logit. Such a model would compare the attributes of the location selected by each entering firm with other possible choices for locations that were available to that firm. No data, however, is available regarding locations that each firm did not select. Therefore, we can only compare the attributes of the locations as which entries actually took place and assume some homogeneity of the sites in each firms choice set for potential outlets. Given that

\(^2\) The population density control variable comes from the 1990 US Census Tape 3B, which contains demographic information about population at the zip code level. The list of zip codes included in Metropolitan Statistical Areas is available with the Arcview Geographic Software package.
we are limited to such a comparison, simple ordinary least squares is appropriate for continuous distance variables such as these.

Our approach is similar to that of Baum and Haveman (1997) in their study of agglomeration in the Manhattan Hotel Industry. In that paper, they also use dependent and independent variables that consist of distances between new and existing locations.

TABLE 1

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>XDIST</td>
<td>Exit Distance: Distance from the entry to the nearest firm that exited from 0 to 12 months previous.</td>
</tr>
<tr>
<td>XDISTLG</td>
<td>Exit Distance Lagged: Distance from the entry to the nearest firm that exited from 12 to 24 months previous.</td>
</tr>
<tr>
<td>HQLN</td>
<td>Entrant’s Headquarters Distance: Log of the distance from the new outlet location to the firm’s headquarters.</td>
</tr>
<tr>
<td>TEXASHQ</td>
<td>TEXASHQ = 1 if the firm’s headquarters is in the State of Texas</td>
</tr>
<tr>
<td>CLOSEOUT</td>
<td>Entrant’s Closest Outlet Distance: Log of the distance from the new outlet location to the firm’s nearest ‘vantage point’, that is, the firm’s nearest outlet at the time of entry (for multi-outlet firms, the closest outlet, or for single-outlet firms, the headquarters)</td>
</tr>
<tr>
<td>XHQLN</td>
<td>Exit’s Headquarters Distance: Log of distance from the nearest exited outlet of the last 0 – 12 months to the headquarters of the firm that owned the exited outlet.</td>
</tr>
<tr>
<td>XHQLNLG</td>
<td>Exit’s Headquarters Distance Lagged: Log of distance from the nearest exited outlet of the last 12 - 24 months to the headquarters of the firm that owned the exited outlet.</td>
</tr>
<tr>
<td>EXIST2DS</td>
<td>Distance from the new outlet to the 2 nearest existing units.</td>
</tr>
<tr>
<td>MSA</td>
<td>MSA = 1 if the new outlet is within a Metropolitan Statistical Area</td>
</tr>
<tr>
<td>POPDENS</td>
<td>Density of the population</td>
</tr>
</tbody>
</table>

FIGURE 1
RESULTS AND DISCUSSION

Tables 4 and 5 report the results. As can be seen from the regressions on the entire data set, in Table 4, the variables have moderate overall predictive effect, based on the R-square statistics, while the focal variables have little individual influence. The only focal variable with impact on the overall set of exits in Table 4 is \( \text{XHQLNLG} \), the lagged distance between firms’ outlets and the headquarters of dissolved outlets, which we discuss below.

It is possible that there is a difference between the location preferences of ‘mom-and-pop’ stores that are restricted to a single county and units of larger chains that are spread over multiple counties. Resource-partitioning theory would argue that the larger, generalist chain organizations will try to move toward the center of the market, perhaps by focusing on metropolitan areas or areas with high population density. Specialist ‘mom-and-pop’ stores may be able to sustain themselves by focusing on a narrow niche, a single county (Carroll, 1985; Carroll and Swaminathan, 1992; Lomi, 1995; Swaminathan, 1995). We therefore split the data set in two, based on whether the firm headquarters is in the same county as the new outlet. The regressions performed on this split data set, which Table 5 reports, show substantial overall explanatory fit for the sub-sample of distantly-headquartered firms (models 7 to 12) and report effects consistent with several of the hypotheses that we developed in this paper.

Particularly interesting are the results in Table 5 from the data set of firms with headquarters in different counties from the new outlets (models 7 to 12). This set excludes all ‘mom and pop’ stores where the outlet is also the default headquarters. This subset includes 606 outlet entries.
HQLN, the log of the distance to headquarters, tests H1a. The variable has a significantly negative effect on the distance from the new entry to the nearest recent exit (model 7), which supports Hypothesis 1a. Also significant is the alternative test for Hypothesis 1a, entrants with in-state headquarters are more likely to locate further from recent exits (TEXASHQ, in model 8). High collinearity between HQLN and TEXASHQ (-0.89, Table 3) makes a separation of the two distance effects impossible (see model 9).

<table>
<thead>
<tr>
<th>TABLE 2</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Variance</th>
<th>Minimum</th>
<th>Maximum</th>
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<tr>
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<td>TEXASHQ</td>
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<td>1.00</td>
</tr>
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<td>CLOSEOUT</td>
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<td>2.38</td>
<td>0.00</td>
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</tr>
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</tr>
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<td>0.07</td>
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<td>1.00</td>
</tr>
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<td>1034.72</td>
<td>107E05</td>
<td>0.00</td>
<td>10812.00</td>
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### TABLE 3: CORRELATIONS

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</thead>
<tbody>
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<td>1 XDIST</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>2 XDISTLG</td>
<td>0.50</td>
<td>1.00</td>
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<td></td>
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</tr>
<tr>
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<td>5 CLOSEOUT</td>
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<td>0.38</td>
<td>-0.12</td>
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<td>6 XHQLN</td>
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<td>-0.08</td>
<td>0.12</td>
<td>-0.10</td>
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<td>1.00</td>
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<tr>
<td>7 XHQLNLG</td>
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<td>-0.07</td>
<td>0.07</td>
<td>-0.07</td>
<td>0.03</td>
<td>0.04</td>
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<tr>
<td>8 EXIST2DS</td>
<td>0.52</td>
<td>0.63</td>
<td>-0.05</td>
<td>0.04</td>
<td>-0.01</td>
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<tr>
<td>9 MSA</td>
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<td>-0.51</td>
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<td>-0.16</td>
<td>0.02</td>
<td>0.11</td>
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<td>10 POPDNS</td>
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<td>-0.02</td>
<td>-0.02</td>
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<td>0.03</td>
<td>-0.12</td>
<td>0.28</td>
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### TABLE 4: ENTIRE DATA SET

<table>
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<tr>
<th></th>
<th>DEP VAR IS XDIST (1 – 3)</th>
<th>DEP VAR IS XDISTLG (4 – 6)</th>
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<tr>
<td></td>
<td>(1)</td>
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<td>HQLN</td>
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<td>-.198</td>
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<td>TEXASHQ</td>
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<td>EXIST2DS</td>
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<td>.829 **</td>
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<tr>
<td>MSA</td>
<td>-10.66 **</td>
<td>-10.66 **</td>
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<tr>
<td>POPDNS</td>
<td>-.000*</td>
<td>-.000*</td>
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<tr>
<td>CONST</td>
<td>16.81 **</td>
<td>15.77 **</td>
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** p < 0.01, * p < 0.05, + p < 0.10; Std. Errors in parentheses.
CLOSEOUT, the distance between a firm’s closest existing outlet and the location of its new outlet, tests H1b. The coefficient is negative and significant, though marginally (models 7 & 8). The closer the existing outlet of the firm, the more distantly it tends to locate from a recently dissolved outlet. Not only does this result provide some support for Hypothesis 1b, but it also provides some support against an alternative set of hypotheses that could potentially provide a different explanation for the strong significance of the HQLN and TEXASHQ variables in models 7-9. If the firms with very distant headquarters simply had different location requirements for their outlets from those with closer headquarters, then they might be observed locating more closely to exited firms. In this case, the significance of HQLN might have nothing to do with H1a argument concerning inferior information that distantly headquartered firms possess about dissolutions. Yet, if this alternative explanation were the case, there would be no reason for CLOSEOUT to be negative and significant.
The results for HQLN, TEXASHQ, and CLOSEOUT in models 10 to 12 of Table 5 test H2. The dependent variable for these models is lagged entry & exit relationships, rather than the relationships during the previous 12-month period that models 7 to 9 reported. The lack of significant relationships between the lagged distance to the nearest dissolution and the distance from the entry to its headquarters (HQLN & TEXASHQ) as well as the distance to the firm’s nearest existing outlet (CLOSEOUT) is consistent with Hypothesis 2. It may be that there is no relationship because all firms, regardless of distance to headquarters, are aware of past dissolutions and can avoid locating too close to the dissolutions. Alternatively, though, this hypothesis would also imply that the average distance to a lagged dissolution by the new outlet of any firm, locally or distantly-headquartered, would be greater than the distance to a more recent dissolution. Yet, from Table 2, we see that XDIST and XDISTLG, have statistically equivalent mean values (6.15 and 6.73). Thus, we conclude that hypothesis 2 can only be equivocally supported because of a simpler alternative hypothesis: older dissolutions probably contain only little relevant information.

Finally, XHQLN, which is the distance from the nearest outlet to the headquarters of a dissolved outlet, tests hypothesis 3. The negative coefficient for XHQLN in models 7-9 supports the hypothesis. Firms are less likely to avoid sites of distantly headquartered dissolutions than those that were locally headquartered. Notice that this is the only result that achieves even marginal significance in the lagged analysis of models 10 to 12. Moreover, these were the only results that achieved significance or near significance in the analysis of the overall sample (Table 4) and the locally headquartered firm sub-sample (models 13 & 14 of Table 5). Together, the consistency of the lagged distance result suggests that areas where distantly headquartered firms have exited remain attractive to entrants well after a year has passed. This result is consistent with the argument that the information about exits of distantly headquartered is more easily accessible, and for a longer period of time, by all firms regardless of their distance to their headquarters, and that, further, such exits are regarded as opportunities for entry.

The regressions in Table 5 also contradict the alternative Hypothesis 3. According to that hypothesis, distantly headquartered firms would be more likely to avoid
other distantly headquartered competitors. As the outlets in the regressions reported in models 7-12 of Table 5 are those that have headquarters in different counties from the unit, this subset would be the one with a positive coefficient for the XHQLN variable if the alternative Hypothesis 3 were true.

The control variables are highly significant, showing that both dissolutions and entries occur more frequently in areas with high levels of economic activity. The inclusion of the EXIST2DS variable is noteworthy because its inclusion strengthens the support for Hypothesis 1. Without the control, the relationship we see from the regressions could just be the result of high levels of economic activity. We also note that the distance to the two closest existing units was used as the control variable because the inclusion of this variable in the regressions caused a higher increase in the R squared than either the distance to the single closest existing unit or to an average of the three closest existing units. Regressions with these alternative specifications produced results qualitatively equivalent to those we report here.

CONCLUSION

We have shown that distance to a firm’s headquarters or closest outlet does alter ability to react to local information contained in local exits. Further, the value of the information provided by dissolution differs based on the distance to headquarters of the dissolved outlet. Locally headquartered dissolutions seem to contain more valuable information about the viability of the surrounding area. We believe these findings present valuable evidence that is relevant to the literatures on spillovers, organizational learning, international expansion, and organizational size.

This set of results is important to help understand how locally headquartered firms can compete against their distantly headquartered competitors. Locally headquartered firms may be more aware of outlets, both locally and distantly-headquartered, that have been dissolved. This finding contains some implications for managers. First, if possible, keep headquarters functions as close as possible to the location of a firm’s outlets. While economies of scale may outweigh the benefits of local knowledge in some instances, firms should be willing to move closer to where their business actually occurs. Second,
large firms need to be aware of the possible prowess of much smaller competitors in making location decisions. While “local culture” and “legal systems” are at the top of the list of what large and distantly headquartered entrants need to know about a market, details of location choice has often not been emphasized.

Finally, we would like to encourage more overlap between domestic and international literatures on the themes of entry and exit. We believe that domestic studies can be of great use in both the strategy and the international business field because of their relative laboratory-like conditions in which some international variables, such as cultural and legal differences, are held as close to constant as possible. We have identified two concepts, geographical distance and local knowledge, that should have an impact on both international and domestic studies. Some previous international studies of these variables have been discussed here. Our domestic study adds a level of detail to the knowledge about these variables currently not present in the international literature. These findings can then be used to add more precision to future international studies.
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