DO STRATEGIC GROUPS DIFFER IN REPUTATION?

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While most strategic group research has focused on performance implications, we consider the relationship between strategic group membership and reputation. Using strategic group identity and domain consensus concepts, we propose strategic groups have different reputations. We find significant differences exist in reputation across three identified strategic groups of U.S. property/casualty insurers, supporting our contention that reputation is a multilevel concept. Post hoc analyses suggest strategic groups with higher reputation also have higher performance on some critical measures, indicating reputation may be a mobility barrier beneficial to members of certain groups. Practitioner implications include challenges of within-group differentiation in firm reputation. Copyright © 2000 John Wiley & Sons, Ltd.

Strategic groups represent collections of firms that are similar on key strategic dimensions (Hunt, 1972; Porter, 1979). The primary goal of most prior strategic groups research has been to determine if significant performance differences existed across strategic groups (e.g., Cool and Schendel, 1987; Mehra, 1996). Yet there may be other implications of strategic groups. For instance, Cool and Dierickx (1993) found that group structure affects rivalry, which then affects performance. Peteraf and Shanley (1997) proposed that strategic groups with strong identities would have more positive reputations. Dranove, Peteraf, and Shanley (1998) also suggested some strategic groups develop reputations that serve as mobility barriers that may affect performance, such as strategic groups that specialize in high-quality products.

In this paper, we consider in more detail the relationship between strategic groups and reputation. Specifically, the discussion is theoretically expanded by using not only strategic group identity (Peteraf and Shanley, 1997), but also domain consensus (Thompson, 1967) at the strategic group level as a way to explain the process linking strategic groups and reputation. We use a broader definition of reputation which includes not only the favorableness component highlighted by Peteraf and Shanley (1997) but also the true characteristics component important to economists (Weigelt and Camerer, 1988). The relationship between strategic groups and reputation is empirically investigated in the property/casualty sector of the U.S. insurance industry. In addition to furthering knowledge of nuances in both reputation and strategic groups, a demonstrated empirical relation would provide more evidence to deflect criticism that strategic groups are artificial, artifactual collections of firms (e.g., Barney and Hoskisson, 1990).

Our paper is structured as follows. First, past strategic groups research is briefly reviewed. This is followed by the development of relationships between strategic groups and reputation using the

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concepts of strategic group identity and strategic group domain consensus. Next, a description of how our hypothesis was tested using a sample of 84 insurers is presented, followed by discussion of results and implications. Finally, limitations of our study and suggestions for future research conclude the paper.

STRATEGIC GROUPS AND REPUTATION

The strategic groups concept appeared in the 1970s as industrial organization economists sought to find ways to understand differences within industries (Hunt, 1972). A strategic group represents a collection of firms within an industry that differs systematically from firms outside the group along certain strategic dimensions (Hunt, 1972; Porter, 1979). Caves and Porter (1977) applied the industry-level concept of entry barriers to the strategic group level. They argued strategic groups were subsets of an industry separated by mobility barriers that limit movement across groups. An important implication of mobility barriers is that strategic groups should differ in performance. However, empirical tests of this proposition were mixed. Moreover, most research formed strategic groups by cluster analyzing archival strategy variables (McGee and Thomas, 1986; Ketchen, Thomas, and Snow, 1993). Given the goal of cluster analysis is to create groups and the mixed results in past research regarding the relationship between strategic groups and performance, some researchers suggested strategic groups may be mere methodological artifacts (Hatten and Hatten, 1987; Barney and Hoskisson, 1990).

Researchers responded to these issues in several ways. Some developed cognitive strategic groups, formed from the groupings used by managers themselves (e.g., Reger and Huff, 1993). Others improved conceptualizations of archival variables used to form strategic groups, focusing on firm scope and resource commitments (e.g., Cool and Schendel, 1987). Strategic groups formed by cognitive methods were found to be similar to those formed through cluster analyzing archival variables (Nath and Gruca, 1997). Cool and Dierickx (1993) examined the implications of groups on rivalry and found that intergroup and intragroup rivalry had differential effects on firm performance. According to Dranove *et al.* (1998), the Cool and Dierickx study is noteworthy as it is one of the few to test the impact of group-level structures on firm-level performance. To evaluate the body of research testing performance implications of strategic groups, Ketchen *et al.* (1997) meta-analyzed 40 original tests and found significant performance differences across strategic groups. Collectively, these studies provide better evidence that strategic groups are a useful tool in the strategic management toolbox.

Recently, Peteraf and Shanley (1997) proposed that strategic groups may have identities, much like organizations. Organizational identity has been defined as the central, distinctive and enduring feature of an organization (Albert and Whetten, 1985). Peteraf and Shanley (1997: 166) extended organizational identity to the strategic group level and defined strategic group identity as the set of mutual understandings among managers regarding the central, distinctive, and enduring characteristics of a cognitive intra-industry group. By definition, a key distinctive factor of each strategic group is its strategic recipe. In their theory, strategic group identity is based both on micro-level social learning and social identification processes, and on macro-level economic, historical and institutional processes (Peteraf and Shanley, 1997). They also suggest these processes may lead groups with stronger identities to have more positive reputations.

Reputation has been used in related ways in strategic research, as reviewed recently by Dollinger, Golden, and Saxton (1997). Most research focused at the firm level of analysis, where reputation has been defined as the knowledge about a firm's true characteristics and the emotions towards the firm held by stakeholders of the firm (Weigelt and Camerer, 1988; Hall, 1992; Fombrun, 1996). In essence, reputation reflects what stakeholders think and feel about a firm. Different types of reputation have been studied, such as for being a tough competitor (Milgrom and Roberts, 1982), for being a good place to work (Gatewood, Gowan, and Lautenschlager, 1993), and for having quality products (Shapiro, 1983). Reputations also provide information about expected future behavior (Alchian and Demsetz, 1972; Weigelt and Camerer, 1988). Thus, a firm might be expected in the future to be a tough competitor, a good place to work, and/or offer quality products.

Interest in reputation has grown in the past decade. At the firm-level, research in the resource-based view of the firm proposed that reputation may be a resource leading to superior performance (Dierickx and Cool, 1989; Barney, 1991). For instance, U.K. managers rated company reputation as the most important of 13 intangible resources (Hall, 1992). Additionally, Rao (1994) showed how the winners of legitimation contests in the embryonic U.S. auto industry developed reputations that increased their survival chances. Researchers have begun to consider differences in reputation across industries, as well. For instance, Bennett (1998, 1999) found U.K. residents viewed mutual building societies as friendlier than stockholder-owned banks. In addition to firm and industry reputations, Peteraf and Shanley (1997: 179) proposed that a strategic group with a strong identity will increase its reputation, which they define as "favorable and publicly recognized standing." We expand this definition to include knowledge of true characteristics of strategic groups, recognizing the supplementary perspective of economic theory (Alchian and Demsetz, 1972; Weigelt and Camerer, 1988).

Given this overview of strategic groups and reputation, we proceed to develop a proposition connecting these concepts using two different theoretical logics. The first expands upon strategic group identity–reputation propositions initially made by Peteraf and Shanley (1997). The second applies the domain consensus concept of Thompson (1967) to the strategic group level. In contrast to the former, the latter perspective does not require the existence of a strategic group identity for there to be a reputation, nor does it assume that outsiders who assess reputations perceive groups. Underlying both logics is the theoretical strategy of applying firm-level theory to the strategic group level, analogous to the multi-level theorizing on threat rigidity by Staw, Sandelands, and Dutton, (1981).

Strategic group identity and reputation

An initial proposition connecting strategic groups and reputation was presented by Peteraf and Shanley (1997: 179). They assert: '[a] stronger strategic group identity will increase a group's positive reputation,' reasoning that a strong identity is more visible to outsiders and would serve as a differentiation signal. We agree a strong identity may increase group visibility, but we are uncertain if a strong identity necessarily increases group reputation based on research on both firms and industries. Consider the tobacco industry. Given major threats to its legitimacy and few firms in the tobacco industry (Peteraf and Shanley, 1997; Dranove *et al.*, 1998), a strong identity would be expected. Compared to other industries, however, the tobacco industry is commonly perceived to have a bad reputation (e.g., Miles, 1982). Similarly, at the firm level, Dutton and Dukerich (1991) noted the Port Authority of New York and New Jersey had a strong engineering identity, but a poor reputation with the public. Thus, while we question the extent to which identity strength increases reputation, we agree identity and reputation may be related at the strategic group level. We extend Peteraf and Shanley's (1997) discussion by applying past research on organizational identity and reputation.

At the firm level, identity, strategy, and reputation have been connected theoretically and empirically. Identity and strategy are reciprocally related, in that strategic choices are concrete examples of firm identity (Ashforth and Mael, 1996; Whetten and Godfrey, 1998). When Sarason (1995) asked managers what was central, distinct, and enduring about their firm, many responded by describing their firm's strategy. The centrality of strategy is certainly consistent with most strategic management research. Identity and strategy are related to reputation in the following way: A firm projects images that reflect its identity to its stakeholders (Whetten, Lewis, and Mischel, 1992). These images include not only advertising and public relations, but also strategic actions and verbal statements of strategy, such as those communicated through annual reports or speeches by CEOs. In turn, stakeholders view these images, interpret them and form reputations based on them (Dutton, Dukerich, and Harquail, 1994; Whetten, 1997). Strategy has also been connected directly to reputation. Most notably, Fombrun and Shanley (1990) found firm diversification strategy was related to reputation.

We propose similar reasoning may connect identity, strategy, and reputation in strategic groups. Each strategic group has its recipe or core strategy (Porac, Thomas, and Baden-Fuller, 1989; Reger and Huff, 1993). As such, core strategy is one of the embodiments of strategic

group identity that is projected to the external environment. External stakeholders view this image of each strategic group's identity and form reputations based on it. The reputation of each group may differ because the identity and strategy of each group differ. Moreover, this relationship may be influenced by the numerous factors that affect strategic group identity strength as outlined by Peteraf and Shanley (1997). These include social learning and identification, economic, historical and institutional forces, network properties, and many other factors.

The strategic identity logic is based on cognitive strategic groups. The relationship between strategic groups and reputation may hold not just for cognitive strategic groups but also for archival strategic groups, if there are sufficient mobility barriers and differences in strategic interactions among groups. Cognitive strategic group research highlights the fact that firms within a group may affect each other even if they do not directly recognize all the other firms as competitors. Different groups of firms were shown to exist in the Scottish knitwear (Porac *et al.*, 1989, 1995), banking (Reger and Huff, 1993) and hotel industries (Lant and Baum, 1994). Managers within each group did not always recognize every member of the group as a competitor. Nevertheless, Porac *et al.* (1995) found that the density of named rivalries was far greater within a group than across groups. The implication is that the actions of particular firms in a group have greater influence on other firms in the group because the network property of structural equivalence (i.e., links to the same firm without direct ties) supplements cohesion (Burt, 1987; Galaskiewicz and Burt, 1991). This is especially important for larger groups, such as those with 'tens of firms' found by Porac *et al.* (1995), which is comparable to the insurer groups we identify.

Some archival strategic group research also indicates there are group-level strategic interactions. Tremblay (1985) found that advertising expenditures by regional and national brewing groups in the United States influenced demand asymmetries. Cool and Dierickx (1993) found that group rivalry was related to firm performance in archival strategic groups in the pharmaceutical industry. Furthermore, Nath and Gruca (1997) connected cognitive and archival strategic group research. They found convergence between groups formed from managerial cognitions and those formed from archival strategy variables. Given both archival and cognitive group research has shown strategic interactions among group members in a variety of industries, and likely similarities between cognitive and archival groups, it is possible there are interactions among strategic groups in other industries constructed from archival strategy variables. Thus, the relationship between strategic groups and reputation may hold in both types of groups.

The domain consensus of strategic groups

A second theoretical logic for linking strategic groups and reputation has its basis in Thompson's (1967) concept of domain consensus, which does not require the existence of a strategic group identity. Instead, it assumes external observers who assess reputations face cognitive limitations and use categorization schemes. Thompson (1967) defined firm domain as the markets a firm serves and the technologies (i.e., resources) it uses to serve them. His definition of domain is quite similar to the definition of strategy as a firm's realized allocation of resources to its product market choices (Chandler, 1962; Mintzberg, 1978; Wernerfelt, 1984). A firm is embedded in a task environment, consisting of various stakeholders including customers, suppliers, competitors, and regulatory groups. This latter category includes both governmental regulatory agencies and other quasi-regulatory bodies such as trade associations, professional organizations, and rating agencies. A firm negotiates a domain consensus, representing a set of expectations about what the organization will do with respect to its stakeholders (Thompson, 1967: 29). As such, this set of expectations can be subdivided into individual components that are related to the economic perspective on reputation (Alchian and Demsetz, 1972; Weigelt and Camerer, 1988). For instance, customers may expect a company to produce high-quality products (Shapiro, 1983).

According to the embeddedness perspective, the negotiation of a domain consensus involves not only economic but also social exchanges (Granovetter, 1985). Economic exchanges include resource, product, and monetary transactions, whereas social exchanges provide information about firm characteristics and trustworthiness. Such reputational information spreads through individual and interorganizational networks and

coalesces into firm reputation (Fombrun, 1996). For example, Shrum and Wuthnow (1988) found that network interactions affected the reputation of research institutes. This phenomenon also has been observed in boundary-spanning inter-relationships (Galaskiewicz and Wasserman, 1989; Galaskiewicz and Burt, 1991).

Both the domain consensus and network arguments may also apply at the strategic group level. Firms in a strategic group have similar domains, that is, they use similar resources to serve similar markets. The associated social interactions within the task environment may lead to similar perceptions of firms in the group by those in the environment. Social cognition theory implies that people categorize their environment to make sense of it (Mervis and Rosch, 1981; Fiske and Taylor, 1991; Weick, 1995). In the context of strategic groups, research has shown that managers in an industry categorize firms into groups (Porac *et al.*, 1989; Reger and Huff, 1993). Members of the task environment also face cognitive limitations and therefore may also categorize firms in the focal industry into groups. Seeing one firm as similar to another may evoke a schema for interpreting both firms in terms of their true characteristics and their emotional appeal (Ashforth and Mael, 1996). As in the case of an individual firm, members of the task environment exchange reputational information through social networks, such as through trade publications or professional organizations. Over time, this information may coalesce into a reputation for the strategic group as a whole. Because strategic groups have different domains, their reputations may differ. Given the connections between archival and cognitive groups presented previously, the logic of domain consensus of strategic groups may hold for both cognitive and archival groups.

In sum, both the strategic group identity and domain consensus perspectives suggest the following:

Proposition: Different strategic groups may have different reputations.

We develop a testable hypothesis to investigate the proposition that strategic groups may differ in reputation in the context of the property/casualty segment of the insurance industry, focusing on reputation for financial stability and product qual-

ity. The insurance industry has many characteristics enumerated by Peteraf and Shanley (1997) that may increase the strength of strategic group identities. These characteristics include social learning, social identification, historical and institutional development, network linkages, exogenous shocks, managerial movement, corporate diversification, and firm entry and exit. Moreover, they also facilitate strategic interactions and the maintenance of mobility barriers. Although Peteraf and Shanley (1997) presented theoretical characteristics, the empirical features of the industry often embody a combination of characteristics.

There are dozens of insurance industry trade and professional associations, such as the Alliance of American Insurers (AAI), the American Association of Insurance Services (AAIS), the American Insurance Association (AIA), the Insurance Services Office (ISO), the Insurance Information Institute (III), and the National Association of Insurance Commissioners (NAIC). These organizations have many different effects. First, they are evidence of the institutional development of the industry. With this development, there are extensive network ties, an important component in the development of a strategic group and industry macroculture (Abrahamson and Fombrun, 1994; Peteraf and Shanley, 1997). In the case of the aforementioned groups, they facilitate exchange of information among different companies, product lines, and professionals. In other words, the trade associations contribute to social learning and competitive dynamics (Peteraf and Shanley, 1997; Kraatz, 1998). To the extent that certain firms focus on different product lines and classes of business, this increases the density and structural equivalence of certain segments (e.g., American Land Title Association, Crop Insurance Research Bureau).

Second, trade and professional organizations can strengthen identification within certain industry groups. For instance, the National Association of Mutual Insurance Companies (NAMIC) lobbies various levels of government and develops public relations campaigns on behalf of mutual insurers. Additionally, professional organizations such as the Independent Insurance Agents of America (IIAA) and professional education/designation programs such as the American Institute for Chartered Property Casualty Underwriters (AICPCU) encourage various levels of what Galaskiewicz and Wasserman (1989) refer to as network ties

via boundary-spanning personnel. Given that the purpose of many professional organizations is the dissemination of knowledge and the socialization of members into the profession (e.g., the Code of Ethics of the CPCU Society), it is conceivable that members may come to view their environment in similar ways. Having many parallel effects to these trade and professional associations are well-developed trade media. These range from general industry news (e.g., *Business Insurance, National Underwriter*) to professional journals (e.g., *CPCU Journal, Risk Management*) to product or segment specific publications (e.g., *Rough Notes, Surplus Line Reporter & Insurance News*).

Historical factors also may be important in the strength of strategic group identity as well (see Birkmaier and Laster, 1999, for a recent history of insurance organizations). For instance, insurance in general and mutual insurers in particular evolved out of affiliations of individuals who faced similar loss/risk exposures (e.g., farmers, tradesmen, wooden home owners in cities, ocean marine shippers). The first successful large-scale stock insurers did not emerge until the mid-1800s, when the overall economic system had developed sufficiently to better support such for-profit ventures. As a result of their early commonality of purpose, mutual insurers are still viewed today as being more in touch with their customer-owners in contrast to the investor-owners of stock insurers.

In recent years, there have been several exogenous shocks that may increase strategic group identity, such as major hurricane and earthquake losses, and increased pressure for financial services deregulation and integration among insurers, banks, and investment brokerages. There has been net growth in new industry entrants, both in terms of new U.S. start-ups and international insurers seeking growth opportunities in our domestic markets (Insurance Information Institute, 1999). Most firms, even the well established, may not compete in every major line of business but instead focus on a limited number of products or markets. In sum, the insurance industry has many characteristics that may heighten strategic group identity and cause strategic interactions to vary among groups. Thus, we propose:

Hypothesis: Different strategic groups in the property/casualty segment of the insurance industry have different reputations for product/financial quality.

METHODS

Sample

Recent research recommends that strategic group studies focus on a single industry in order to develop a richer understanding of the key products and resources of the industry (Peteraf and Shanley, 1997; Mehra and Floyd, 1998). We extend this logic by testing our hypothesis using a single sector within an industry, namely the property/casualty segment of the U.S. insurance industry. Our use of individual firms as the level of analysis also differs from, and improves upon, prior insurer strategic group research (e.g., Fiegenbaum, 1987; Fiegenbaum and Thomas, 1990). These early works analyzed entire insurer 'fleets' (or holding companies) that spanned both the life/health and property/casualty sectors. Significant differences exist, both across and within each sector, along myriad strategic dimensions including operating strategies, product offerings, regulatory oversight, scope of operation, and resource deployment. Our more fine-grained approach recognizes that insurers, including those within fleets, tend to operate as unique entities and may focus their strategic efforts in one or relatively few geographic areas, lines of business, or even individual products. Thus, we consider the appropriate level of analysis to be individual firms in a single industry sector. Furthermore, our choice of the firm as unit of analysis parallels the choice of the ratings agencies, who prefer to rate individual firms whenever possible.

Due to time lags in the collection and dissemination of data, 1996 is the last year for which complete data had been reported at the time of initial research in this study, and will therefore be the year of analysis. Approximately 3350 companies sold some form of property/casualty insurance as of year end 1995 (Insurance Information Institute, 1998). The top 100 companies by 1996 sales for which complete strategic profile data were available were included in the original sample. Eleven firms were dismissed from the analysis due to their status as reinsurers, whose strategic focus is on other insurers rather than end-user insurance consumers. Five firms were dismissed as being extreme outliers and not rep-

resentative of the sample (see later discussion), resulting in a final sample of 84 firms who accounted for approximately 60 percent of total property/casualty industry premium volume in 1996. The statistical power of this sample is such that we can detect all large and medium effects at $\alpha = 0.01$, but we cannot be sure of detecting all small effects (Ferguson and Ketchen, 1999).

Data sources

The primary source of data was the statutory annual financial statements of individual insurance firms. These are submitted in uniform format governed by the National Association of Insurance Commissioners (NAIC) to the regulatory agency in states where firms are licensed or domiciled. These statements are collectively available from *OneSource*, a private firm licensed by NAIC to distribute these data.

Measures

Insurer reputation

There are many types of reputation (Dollinger *et al.*, 1997). One critical type of reputation in the insurance industry is the ability to meet future claims. This type of reputation is fundamentally meaningful for insurance customers because of the intangible, contingent, and future-oriented nature of insurance products. The quality of the insurance product to the consumer depends in large part upon the insurer being in business and having sufficient reserves to pay claims, should a loss occur, at some point in the future. However, most consumers find it too difficult and/or time consuming to accurately assess the financial strength and stability of insurers. Instead, they rely on rating agencies having comparative advantage in the collection, analysis, and dissemination of such information (Wakeman, 1981). Reliance on specialized intermediaries is common in formation of reputation (Fombrun, 1996).[1]

Although the value of objective assessment of insurer insolvency risk or failure cannot be ignored or downplayed (Ferguson, Barrese, and Levy, 1998), the actual occurrence rate has been relatively low (e.g., less than 20 failures per thousand per year throughout the decade preceding our analysis). Yet policyholders, who are somewhat insulated from the full consequences of insurer insolvency due to the existence of limited state guaranty funds, may still be expected to willingly pay a premium for products offered by insurers with a better reputation for quality and safety (Sommer, 1996). Thus, reputation ratings are important to insurer owners and managers because ratings are widely touted in strategic marketing, promotion, and placement activities.

Rating agency opinions carry significant weight beyond a simple threshold ability to meet future claims. For example, firms with lower relative ratings may be excluded from competing for certain customers or classes of business (Ferguson *et al.*, 1998). Many corporate risk managers have institutional policies that preclude placing business with lower rated insurers without stringent justification. Insurance producers (e.g., agents, brokers, solicitors) also have a significant personal interest in insurer financial reputation ratings as a producer may be held financially liable to their policyholders by statute for placing business with an insurer that later fails (Hardigree and Howe, 1990). The use, or misuse, of rating information is also important to state insurance regulators in their role as protectors of the public interest through the surrogate monitoring of market conduct activities. Further, a large body of literature exists that explores adverse financial effects (e.g., in firm bond or stock price) that may result from rating downgrades (e.g., Hand, Holthausen, and Leftwich, 1992).

A number of rating agency intermediaries currently compete in the market to provide information regarding insurer financial strength and claims-paying ability, each having significant financial incentives to provide accurate and timely rating opinions (Ferguson *et al.*, 1998). We employ the rating opinions issued by three major, well-respected rating agencies (the A. M. Best Company, Standard & Poor's Corporation (S&P)

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[1] There may be other measures of insurance company reputation, most notably ratings of customer satisfaction by consumer groups. *Consumer Reports* ratings would perhaps be the most highly regarded of these, although severely limited in terms of 'rating' frequency, sampling method, and other factors (Lichtenstein and Burton, 1989). Most critically for our study, *CR* has rated just a handful of firms in two personal lines (auto and home owners), with no commercial

products rated. Further, firms themselves are not rated, only specific policy claim satisfaction.

and Weiss Ratings, Inc.) as our reputation measure. Each agency has developed a proprietary rating philosophy and method to realize its individual competitive advantage (Klein, 1992), and their opinions are widely disseminated and publicized to the insurance markets. Though each agency does not rate every insurer, the three agencies we employed regularly rate the largest cross-section of firms (Ferguson *et al.*, 1998).

Weiss rates firms about a normally distributed, academic-based scale, using alphabetic ranks of A, B, C, D, and E with a 'plus' or 'minus' available for each, along with a simple 'F' (i.e., no plus or minus). Thus, 16 levels of ratings are available to label firms (i.e., A+ = 16, A = 15, … E− = 2, F = 1). Ratings of D+ or below indicate potential vulnerability or substantial weakness that may cause the firm to experience significant financial difficulties, especially in an unfavorable economic environment. A. M. Best rates firms following a 15-level modified A–F scale (i.e., A++, A+, A, A−, B++, B+, B, B−, C++, C+, C, C−, D, E, and F). However, Best ratings are essentially normally distributed around the A rating, and rating categories D, E, and F are reserved for firms below minimum standards, under state supervision or in liquidation, respectively. Ratings of B+ and above are considered secure, while ratings of B and below are considered vulnerable. S&P ratings follow an 18-level basic A–C pattern (i.e., AAA, AA+, AA, AA−, A+, A, A−, BBB+, BBB, BBB−, BB+, BB, BB−, B+, B, B−, CCC and R). Firms with ratings of BBB− and above are considered secure, while ratings of BB+ and below are considered vulnerable. The 'R' rating is reserved for firms undergoing regulatory action.

A composite reputation measure for each firm in the sample was generated by standardizing the numeric equivalents of the letter opinion level assigned the firm by each rating agency and then averaging the standardized values. Overall, the reliability coefficient for this three-item set of observations indicates an alpha of 0.768, which is generally acceptable for exploratory work such as the current research (Hair *et al.*, 1995).

Strategic variables

We form strategic groups by cluster analyzing archival strategic data. Although Peteraf and Shanley (1997) limited their theory of strategic

group identity to cognitive strategic groups, Nath and Gruca's (1997) demonstration of the convergence between cognitive and archival groups implies that archival groups develop identities as well and thus should be appropriate. Moreover, we follow the precautions for researchers using cluster analysis outlined by Ketchen and Shook (1996).

Strategic group membership traditionally has been defined along profiles and characteristics that influence competitive advantage (McGee and Thomas, 1986). Later research extended this approach by acknowledging that strategic groups are produced by two types of traits critical to competition, notably scope of operations and resource deployment methods (Cool and Schendel, 1987; Mehra, 1996). The choice of particular strategic variables was based on both prior strategic group studies of the insurance industry (Fiegenbaum, 1987; Fiegenbaum and Thomas, 1990) and discussions with an expert panel consisting of seven consultants and researchers in both strategic management and insurance (Mehra and Floyd, 1998). Variables capturing scope of operations include product scope and diversity, firm size, age, and ownership form. Variables capturing resource deployment include distribution methods, production methods, and financial and investment strategies. Table 1 lists the specific measures. A more complete description of logic behind their usage follows, beginning with scope of operations variables, then method of developing competitive advantage variables.

Scope of operations variables

Scope of operations is the degree to which an organization sells products offered by the industry, or the number of niches in which the firm operates. The insurance industry is commonly characterized as having two important scope of operations dimensions: (1) type of customer (i.e., personal or commercial lines), and (2) type of product (e.g., life/health or property/casualty). In addition, the diversity in business lines sold by the firm, as well as ownership structure and organizational age and size, are expected to be indicators of relative scope of operations.

Personal vs. commercial lines (PPERS) represents the division of products primarily sold to individuals (e.g., home owners, private passenger auto) and those sold to businesses (e.g., ocean

Table 1. Corporate strategy variables

Strategic component	Strategic Variable	Definition
Scope of operations		
Product Scope Personal vs. Commercial Lines	PPERS	$\dfrac{\text{Personal Net Premiums Written (NPW)}}{\text{Personal NPW} + \text{Commercial NPW}}$
Product Scope Property Lines	PPROP	$\dfrac{\text{Property NPW}}{\text{Total NPW (All Lines Written)}}$
Product Scope Financial Lines	PFNAN	$\dfrac{\text{(Fidelity + Surety + Guaranty, etc.) NPW}}{\text{Total NPW (All lines Written)}}$
Product Diversity	DIVER	$H = 1 - \sum_{i=1}^{n} P_i^2$ where: P_i is relative size of ith line in firm portfolio ($i = 1 \dots n$ lines)
Size	LSIZE	Ln (Total Admitted Assets)
Ownership Form	OWNER	Stock = 1; Nonstock = 0 (i.e., Mutuals, Mutual-owned stocks, Reciprocals, Lloyds)
Age	AGE	1996 − Year of Incorporation
Resource Deployment		
Distribution	AGENCY	Agency = 1; Nonagency = 0
Production	REIN	$\dfrac{\text{Direct Premiums Written -NPW}}{\text{NPW}}$
Finance	LEVER	$\dfrac{\text{Net Earned Premium}}{\text{Policyholder Surplus}}$
Investment	INVEST	$\dfrac{\text{Mortgages + Comm'l Real Estate + Junk + etc.}}{\text{U.S. Governments + Investment Grade Corporates}}$

marine, fidelity, workers compensation, commercial multi-peril). Both personal and commercial lines sectors exhibit unique demand and market characteristics that may induce insurers to compete in providing products to satisfy the individual needs of consumers in each market (e.g., Mayers and Smith, 1990). The PPERS variable measures the proportion of personal lines business relative to total net premiums written.

Proportion of property lines (PPROP): Three major types of financial loss exposures are generally covered by property/casualty insurers: property exposures (e.g., direct and associated indirect losses suffered by the primary policyholder), liability exposures (e.g., to indemnify others for acts that are the responsibility of the primary insured), and other miscellaneous financial exposures that may adversely affect the primary policyholder

due to the failure of a third party to perform (e.g., fidelity, surety bonding, credit). The PPROP variable measures the proportion of property lines business relative to total net premiums written.

Proportion of financial products (PFNAN): The proportion of operations derived from products dealing with the third major product area above (financial exposures resulting from the failure of others) such as fidelity coverage, surety and performance bonds, mortgage guaranty, and credit insurance, allows a better distinction among companies specializing in these important niche areas. To avoid multicollinearity, the second major product segment (the relative proportion of liability insurance) is not included. The PFNAN variable measures the proportion of business derived from financial lines relative to total net premiums written.

Diversification (DIVER): The insurance industry as a whole offers over 30 different major product lines, with a multitude of different policies sold within each line. The number of lines an organization chooses to offer, as well as the relative emphasis placed on each line, reflects strategic choices having many implications (e.g., reduced portfolio risk). A Herfindal index is used to measure the extent of firm diversification across lines of business (Pitts and Hopkins, 1982). Higher index values indicate greater diversification.

Size (LSIZE): Size can influence organizational market power, flexibility and strategic response to environmental concerns. For instance, larger firms have greater market power that tends to increase the sustainability of competitive actions and outcomes, yet larger firms may also have greater bureaucratic structure or rules which tend to decrease flexibility (Hitt, Ireland, and Hoskisson, 1995). Insurer size is expected to influence scope of operations due to potential economies of scale and scope (e.g., Doherty, 1981; Johnson, Flanigan, and Weisbart, 1981). The natural log of total admitted assets is employed in order to mitigate adverse effects of skewness in insurer size that exist across the industry (Hair *et al.*, 1995).

Ownership form (OWNER): The insurance industry is dominated by two major forms of ownership: mutual and stock. Mutual insurers combine the owner and policyholder roles, while stock insurers clearly demarcate owner/investor and policyholder functions. The stock form of ownership characterizes the overwhelming majority of insurers. Mutual insurers, though far fewer in number (comprising less than 10% of firms), control approximately 40 percent of total industry assets and premium volume (Insurance Information Institute, 1998).

Differences in ownership structure have very important implications for managerial incentives and the relative discretion of managers to act upon those incentives, including breadth and scope of insurer operations (e.g., Jensen and Meckling, 1976; Mayers and Smith, 1981, 1988, 1994, *et seq*). For example, managers of nonstock firms (e.g., mutuals) have considerably more discretion and incentives to act in their own best interest, rather than the policyholders, because of their relative insulation from the market for corporate control (Mayers and Smith, 1994). Because of differences inherent in policyholder and stockholder goals, nonstock firms are characterized by their cost-centered orientation, whereas stock firms are considered more profit oriented (Mayers and Smith, 1981). A binary variable is employed to proxy strategic differences in owner/managerial incentives between stock and nonstock ownership forms. Also, following Mayers and Smith (1981), stock insurers whose ultimate parent is in fact a mutual or other nonstock form are coded as nonstock firms since they can be expected to behave more like their parent than a traditional widely held stock insurer.

Age (AGE): Age is an important factor in determining scope of operations in that insurers acquire customers, credibility and capacity to sell multiple product lines over time, and is strongly correlated with reputation and firm survival (Anderson and Formisano, 1988). Reputational capital is a vitally important asset in the business of insurance or any financial service industry in which fundamental success necessarily requires public trust and confidence. Further, rating agencies will not issue a rating opinion until an insurer has been sufficiently 'seasoned' over a number of years of operation. Age is calculated as 1996 (the year of analysis) less the year of incorporation.

Resource deployment variables

In general, organizations use their resources to enhance organizational value, particularly through efficient operations and financial management.

The level of resource commitment to various firm functions can be indicative of organizational commitment to production efficiency. Strategic choices regarding capital resources and investment also influence opportunities to create value by attentiveness to financial management issues.

Distribution system (AGENCY): The method of product dissemination into their target market(s) represents a crucial competitive strategic decision for any firm (see Anderson and Schmittlein, 1984; Anderson, 1985). Much property-liability insurance in the United States is sold through the 'American agency' (or 'indirect') system, wherein insurance products are channeled to customers through either independent agents (i.e., independent contractors who may represent a number of otherwise unrelated insurers) and/or brokers (i.e., contractors who have no advance commitment to any insurer and legally represent insureds as clients). Other insurers, known as 'direct writers,' utilize either exclusive agents (i.e., contractors who represent one insurer or group of commonly owned insurers only), salaried employees, and/or mass merchandising techniques (e.g., mail, Internet) to market and distribute their products. The choice whether to use agency (indirect) or direct distribution channels has significant strategic implications regarding relative managerial control over product marketing and degree of potential market penetration, as well as overall cost effectiveness, among other competitive factors (Barrese and Nelson, 1992). A binary variable (agency = 1; nonagency = 0) is used to depict whether an agency or nonagency distribution system is utilized.

Reinsurance (REIN): Reinsurance is the transfer of all or a portion of a particular risk by a primary insurer to another insurer or insurers, which further spreads the risk and reduces exposure to extraordinary losses. Reinsurance provides several benefits, including increased financial capacity, stabilization of profits, reduction of unearned premium reserves, and surplus relief. One of the most important benefits of reinsurance may be facilitation of entry or exit from a particular line of business, thereby potentially diminishing a mobility barrier created by regulatory obligation to offer continuity of coverage (Trieschmann and Gustavson, 1995: 607). Use of reinsurance can thus expedite capitalization of new competitive opportunities (Mayers and Smith, 1990). REIN is captured by the difference between total direct premiums written and net premiums written (i.e., after reinsurance ceded), divided by net premiums written.

Financial leverage (LEVER): Insurance companies rarely issue traditional debt instruments due to the contingent liability nature of the primary obligations they assume issuing contracts of insurance. However, strategic use of financial leverage by insurers can magnify potential returns obtained through underwriting operations and commensurate investment activities (Anderson and Formisano, 1988). The LEVER variable is calculated as the commonly used net earned premiums (i.e., that portion of total policy premiums written where the contracted obligation for coverage already has been provided as amortized over the life of the policy) divided by policyholder surplus (i.e., the accounting difference between available asset base and total firm liability obligations).

Investment strategy (INVEST): Investment strategies represent organizational choices of acceptable risk/return relationships, with investment earnings offsetting (supplementing) underwriting losses (profits). While firms in most other industries are virtually free to invest in stocks, bonds, derivatives, etc. as they wish, insurers operate in a highly regulated environment where investment choices are constrained by statute. For instance, property/casualty companies are prohibited from investing more than 10 percent of their assets in stock of any one nonclosely related corporation, and real estate holdings cannot exceed more than 10 percent of total assets (Huebner, Black, and Webb, 1996: 653). Such regulatory constraints induce the typical insurer to invest heavily in relatively lower-risk government and higher-quality commercial securities, with equity investments generally being predominantly preferred stock (Insurance Information Institute, 1998). However, insurers can and do invest in other than low-risk government and high-grade corporate securities. The proportion of more risky investments (e.g., mortgages, junk bonds, commercial real estate) to relatively safe investments (e.g., government securities, municipal bonds, high-grade corporate stocks) for a given insurer is an appropriate measure that can differentiate strategic investment choices and resultant competitive position. The INVEST variable represents total investments other than government and investment grade corporate securities divided by

aggregate government and investment grade corporate securities.

Statistical analysis

Strategic groups

Strategic groups were formed using a two-step clustering approach (hierarchical and k-means), which reduces potential biases introduced by employing a single method (Ketchen and Shook, 1996). The hierarchical method used was visual inspection of tree-plots, a common method of determining the appropriate number of clusters (see Miles, Snow, and Sharfman, 1993; Ketchen *et al.*, 1993). Consistent with prior strategic groups research, five outliers also were eliminated and the clustering procedure was repeated on the final sample. Initial cluster centers taken from the first step were used in the k-means step (i.e., Wards clustering method), eliminating problems associated with random seed setting (Hair *et al.*, 1995).

Hypothesis testing

Analysis of variance (ANOVA) was used to test the hypothesis of differences in reputation across strategic groups. Pairwise differences in reputation across the strategic groups were assessed with Bonferroni *post hoc* tests.

RESULTS

Pearson zero-ordered correlations among the variables used are presented in Table 2. Statistical analysis revealed three strategic groups with significantly different strategic competitive profiles based on scope of operations and resource deployment emerged from the two-step clustering procedure, with a Wilks' lambda $F = 17.417$ (d.f. $= 22, 142$; $p < 0.001$). Nine of the 11 strategic variables were significantly different at $\alpha = 0.05$ across the three identified clusters, as presented in Table 3. Companies within each strategic group are listed in Table 4.

Group 1 consisted mainly of larger, older, stock insurers offering very diverse product lines, particularly to commercial rather than personal lines clients. Product distribution was accomplished primarily through the independent

agency system. Group 2 consisted mainly of non-stock insurers that exhibited low overall product line diversity. These firms tended to be more narrowly focused, with significant personal lines operations. Greater relative conservatism with respect to investment portfolio and strategy also was evident. Group 3 represented the middle ground between the other two groups along most measures. Moderately diverse product lines, often sold on a direct basis to individuals and small businesses, characterize this group. A large number of mutual insurers also populate the group.

Our hypothesis proposed that strategic groups differ in their average reputation. ANOVA results as presented in Table 5 indicate significant reputation differences across the three identified groups ($F = 7.506$; d.f. $= 2,81$; $p < 0.001$), providing support for our hypothesis. We also examined differences between pairs of strategic groups. Bonferroni *post hoc* tests indicate the overall significant F-statistic is being driven by relationships between strategic Groups 1 and 3 ($p < 0.007$) and Groups 2 and 3 ($p < 0.006$). There were no statistically significant differences in reputation between Groups 1 and 2.[2]

At the strategic group level, Dranove *et al.* (1998) stated that investments in high-quality reputations by group members could be a mobility barrier that separates strategic groups and contributes to performance differences among them (Caves and Porter, 1977). To investigate this possibility, we examined *post hoc* performance differences among groups on two measures of importance in the insurance industry: the loss ratio and the expense ratio.

The loss ratio provides a measure of the relative success of an insurer in attaining an overall profitable distribution among all exposures accepted, which is not only important in current performance assessment, but also is crucial to long-run firm survival (Huebner, Black, and Cline, 1982). The loss ratio is calculated as the

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[2] We also examined limited *Consumer Reports* claims satisfaction ratings available for 29 firms in our sample. At the firm level, this rating was significantly correlated (0.606, $p < 0.01$) with our reputation measure. ANOVA revealed significant differences across groups ($F > 4.145$, $p < 0.027$), being driven by the difference between Groups 3 and 2 ($p < 0.029$). Overall, Group 3 ($N = 17$ firms), had the highest satisfaction; Group 1 ($N = 3$), had the second highest; and Group 2 ($N = 9$), the lowest. These findings are consistent with our hypothesis test results and provide some supporting evidence that claims satisfaction may be associated with reputation.

Table 2. Correlations

Variables	1	2	3	4	5	6	7	8	9	10	11	12
Scope of operations												
1. Personal Lines PPERS												
2. Property Products PPROP	0.10											
3. Financial Products PFNAN	−0.50	−0.04										
4. Line Diversity DIVER	−0.41	0.21	0.44									
5. Size LSIZE	−0.23	−0.18	0.22	0.17								
6. Ownership Form OWNER	−0.37	0.11	0.37	0.39	−0.03							
7. Age AGE	−0.42	−0.11	0.40	0.39	0.39	0.10						
Resource deployment												
8. Agency AGENCY	−0.40	0.23	0.43	0.51	0.01	0.58	0.30					
9. Reinsurance REIN	0.07	−0.02	−0.19	−0.20	−0.09	−0.18	−0.15	−0.20				
10. Leverage LEVER	0.41	0.13	−0.08	−0.20	−0.29	−0.06	−0.30	−0.11	−0.05			
11. Investment Mix INVEST	−0.27	−0.18	0.24	0.08	0.18	0.05	0.28	0.12	0.02	−0.33		
Performance												
12. Loss Ratio LR	−0.18	−0.21	−0.18	−0.12	0.22	−0.04	0.21	−0.15	0.10	−0.11	−0.04	
13. Expense Ratio ER	−0.32	0.41	0.37	0.56	−0.01	0.22	0.35	0.61	−0.17	0.04	0.06	−0.14

$N = 84$. All correlations ≥ 0.22 are significant at $p < 0.05$; all correlations ≥ 0.28 are significant at $p < 0.01$.

Table 3. Results of two-step cluster analysis

	Wilks' lambda $F = 17.417$; d.f. $= 22, 142$; $p < 0.001$				
	Group 1 ($N = 26$)	Group 2 ($N = 17$)	Group 3 ($N = 41$)		
Strategy variable	Mean (S.D.)	Mean (S.D.)	Mean (S.D.)	F ratio	Sig. of F
PPERS	−0.6752 (0.4641)	1.3112 (0.2794)	0.2350 (0.8820)	43.868	0.000
PPROP	0.0054 (0.7505)	0.1089 (1.0546)	0.2395 (1.0150)	0.495	0.611
PFNAN	−0.0873 (0.1603)	0.2388 (0.0064)	−0.1841 (0.0805)	11.882	0.000
DIVER	0.6664 (0.2154)	−0.8515 (0.6853)	0.0326 (0.9249)	22.388	0.000
SIZE	0.6065 (0.8384)	−0.6219 (0.9150)	−0.1585 (0.9639)	10.194	0.000
OWNER	0.8800 (0.3300)	0.4700 (0.5100)	0.5600 (0.5000)	5.481	0.006
AGE	1.2020 (0.8883)	−0.7195 (0.5906)	−0.2287 (0.5519)	51.208	0.000
AGENCY	0.8500 (0.3700)	0.2400(0.4400)	0.4400 (0.5000)	10.801	0.000
REIN	−0.1216 (0.5032)	0.1633 (0.4486)	0.0985 (0.6391)	1.685	0.192
LEVER	−0.2422 (0.5355)	1.5449 (0.7245)	−0.3200 (0.6569)	56.429	0.000
INVEST	−0.0860 (0.0444)	−0.1202 (0.0221)	−0.0949 (0.0526)	3.013	0.055

proportion of losses plus associated loss adjustment expenses to premiums earned. The expense ratio is a widely accepted measure that reflects an organization's ability to adequately manage operational expenses (e.g., administrative expenses, commissions, contingency for profit) which generally must be recognized when a policy is first written or renewed, according to NAIC statutory accounting rules. The expense ratio is calculated as the ratio of underwriting expenses to net premiums written.

Using MANOVA, we found significant overall differences across the three groups in loss and expense ratio performance measures (Wilks' lambda $= 5.430$; d.f. $= 4, 160$; $p < 0.000$). This relationship was driven by significant differences across groups in the expense ratio (exact $F = 7.482$; d.f. $= 2$; $p < 0.001$), whereas the loss ratio was not significantly different ($F = 1.908$; d.f. $= 2$; $p < 0.155$). Bonferroni tests revealed that Group 3, the group with the highest average reputation, had significantly better overall performance than the other two groups. These results provide preliminary support for the idea that strategic group reputation is a mobility barrier.

To further evaluate the credibility of the strategic groups, we examined whether knowledge of the strategic group structure adds to our ability to predict firm reputation, as Tremblay (1985) and Cool and Dierickx (1993) did for performance. We did this through hierarchical regression. The first model included all-11 firm-level strategy variables and the two performance measures. The second model added the dummies for two of the groups; including the third would create a perfectly collinear model. Table 6 presents the results. When adding the group dummies, the R^2 increased from 0.430 to 0.480, an increase that was significant at the $p < 0.01$ level ($F = 3.270$; d.f. $= 2,68$). Dummy variables for both Groups 2 and 3 were significant ($t = 2.075$, $p < 0.042$ and $t = 2.54$, $p < 0.013$, respectively). These results suggest that knowledge of the strategic group structure helps us better explain reputation over and above when only the firm-level strategy and performance variables are used.

DISCUSSION AND CONCLUSION

This paper used the concepts of strategic group identity and domain consensus to propose that strategic groups have different reputations. Analysis in the property/casualty sector of the U.S. insurance industry provided support for this hypothesis. Our study has several implications for future research in both the strategic group and reputation realms.

Our study contributes to strategic group research in at least two ways. First, finding differences in reputation among groups provides further evidence of the usefulness of strategic groups, contrary to past criticism. Second, we suggest that strategic group reputation may be a mobility

Table 4. Strategic group membership

NAIC#	Group 1	NAIC#	Group 2	NAIC#	Group 3
19038	Aetna Casualty & Surety Co	34754	Commerce Ins Co	19690	American Economy Insurance Company
19380	American Home Assurance Company	21636	Farmers Ins Co Of OR	19275	American Family Mutual Insurance Co
20443	Continental Casualty Co	21652	Farmers Ins Exchange	19704	American States Insurance Company
13935	Federated Mutual Ins Co	21660	Fire Insurance Exchange	19976	Amica Mutual Insurance Company
22292	Hanover Insurance Co	22063	Government Employees Ins Co	21202	Auto Club Insurance Association
22357	Hartford Accident & Indemnity Co	26298	Metropolitan Property & Cas Ins Co	18988	Auto Owners Ins Co
19682	Hartford Fire Ins Co	24260	Progressive Casualty Ins Co	20788	Buckeye Union Ins Co
22713	Insurance Co of North America	32352	Prudential Property & Cas Ins Co	15539	California State Auto Asn Inter-Ins
23043	Liberty Mutual Ins Co	28959	Prudential Property & Cas Ins Co NJ	31534	Citizens Ins Co of America
22977	Lumbermens Mutual Casualty Co	43796	State Farm Indemnity Co	19410	Commerce & Industry Ins Co
19356	Maryland Casualty Co	21709	Truck Ins Exchange	20621	Commercial Union Ins Co
20478	National Fire Ins Co of Hartford	12963	Twentieth Century Ins Co	20990	Country Mutual Insurance Co
25623	Phoenix Insurance Co	25968	USAA Casualty Ins Co	26271	Erie Ins Exchange
24457	Reliance Insurance Co	21458	Employers Ins of Wausau a Mutual Co	24732	General Ins Co of America
26980	Royal Ins Co of America	27553	Mercury Ins Co of CA	38288	Hartford Ins Co of Illinois
24767	St Paul Fire & Marine Ins Co	25143	State Farm Fire and Casualty Co	15598	Interins Exch-Auto Club of So CA
25658	Travelers Indemnity Co	43419	State Farm Lloyds	19437	Lexington Ins Co
25887	United States Fidelity&Guaranty Co			21687	Mid-Century Ins Co
21113	United States Fire Ins Co			22012	Motors Ins Corp
16535	Zurich Ins Co US Branch			23779	Nationwide Mutual Fire Ins Co
20281	Federal Ins Co			23787	Nationwide Mutual Ins Co
21873	Firemans Fund Ins Co			12122	New Jersey Manufacturers Ins Co
20850	Firemens Ins Co of Newark NJ			24074	Ohio Casualty Ins Co
16691	Great American Ins Co			20346	Pacific Indemnity Co
25534	TIG Insurance Company			24988	Sentry Ins a Mutual Co
19445	National Union Fire Ins Co of Pittsburgh			23388	Shelter Mutual Ins Co
				18325	Southern Farm Bureau Cas Ins Co
				35076	State Compensation Insurance Fund
				25941	United Services Automobile Assoc
				41181	Universal Underwriters Ins Co
				25976	Utica Mutual Ins Co
				20397	Vigilant Ins Co
				19232	Allstate Insurance Company
				10677	Cincinnati Ins Co
				35289	Continental Ins Co
				21970	General Accident Ins Co of America
				24740	Safeco Ins Co of America
				11762	Vesta Fire Ins Corp
				28207	Anthem Insurance Companies Inc
				25178	State Farm Mutual Automobile Ins Co
				40827	Virginia Surety Co Inc

Table 5. Reputational differences

| | $F = 7.506$; d.f. $= 2, 81$; $p < 0.001$ | |
	Number of firms	Standardized mean reputation (S.D.)
Group One	26	−0.2951 (0.7398)
Group Two	17	−0.3911 (0.9699)
Group Three	41	0.3253 (0.7221)
	Bonferroni comparisons	
Groups	Significance	95% confidence interval
1 and 2	1.000	(−0.50, 0.69)
1 and 3	0.007	(−1.10, −0.14)
2 and 3	0.006	(−1.27, −0.16)

barrier leading to increased performance. The resource-based view of the firm proposed that reputation takes time to develop and can be hard to imitate, and thus should affect performance (Dierickx and Cool, 1989; Barney, 1991; Hall, 1992).

Our study also contributes to research on reputation in that we show reputation applies not just to individual firms and industries but also to strategic groups. If reputation is a mobility barrier at the strategic group level, as well as a barrier to imitation at the firm level, then managers may need to consider the impact of the actions of their firm on the collective reputation of the group. Caves and Porter (1977) noted that firms might invest in mobility barriers that defend the group. Thus, group members face collective action issues in deciding how much to invest in reputation building and maintenance at the group

Table 6. Influence of strategic group membership on ability to predict reputation[a]

Independent variables	Cluster/performance model		Model with control variables	
	β	t	β	t
Scope of operations				
Personal Lines	0.166	1.269	0.003	0.022
Property Products	0.063	0.576	0.049	0.461
Financial Products	0.155	1.232	0.146	1.193
Line Diversity	0.127	1.007	0.206	1.544
Size	0.227*	2.163	0.303**	2.860
Ownership Form	−0.159	−1.291	−0.118	−0.974
Age	−0.183	−1.507	0.039	0.264
Resource deployment				
Agency	0.117	0.815	0.153	1.093
Reinsurance	−0.037	−0.392	−0.063	−0.673
Leverage	−0.462***	−4.106	−0.537***	−3.366
Investment Mix	−0.090	−0.890	−0.132	−1.321
Performance				
Loss Ratio	−0.215*	−2.015	−0.202†	−1.943
Expense Ratio	−0.390**	−2.676	−0.378**	−2.680
Control variables				
Group2			0.557**	2.075
Group3			0.456**	2.540
R^2	0.430		0.480	
F	4.054***		4.178***	
Δ R^2	0.430		0.050	
F $_{13, 70 / 2, 68}$	4.054***		3.270**	

[a]$N = 84$; †$p < 0.10$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

level. However, the managers of an individual firm must also find a way to have their reputation stand out from their group so their firm can develop competitive advantage over other group members.

There are limitations to our research design which provide opportunities for future research. Our study concentrates on one sector of a single industry in a single year, thus limiting generalizability. Future research should assess if differences in reputation across strategic groups exist in other sectors of the insurance industry (i.e., life/health insurance), in other industries, and across time. Second, we assume that constituents categorize firms, consistent with cognition theory. Future research should examine the extent to which such categorization occurs. Third, determination of whether our knowledge of the group structure helps explain firm outcomes might be accentuated with the use of a group-level variable. Future research should seek to develop group-level variables that may affect reputation.

Another limitation of this paper is that we did not directly assess the extent of strategic interactions within and across strategic groups. Rather, we assumed there was a greater density of interactions within a group based on insurance industry characteristics and past research (e.g., Cool and Dierickx, 1993; Reger and Huff, 1993; Porac *et al.*, 1995). Future research should examine this assumption by asking managers to identify who their competitors are (Lant and Baum, 1994; Porac *et al.*, 1995) or by examining competitive attack and response dynamics in publicly available documents (e.g., Young, Smith, and Grimm, 1996). Moreover, given our interest in reputation, it is important to consider the types of interactions that would affect this variable in addition to those that affect performance. Finally, future research should investigate the relative importance of strategic group identity and domain consensus in the strategic group-reputation context.

In sum, we theoretically connected strategic groups and reputation using the principles of domain consensus and identity applied at strategic group level. Our empirical analysis indicated that strategic groups differ in reputation. Thus, reputation appears to be a multilevel concept. *Post hoc* analysis of performance differences indicate strategic group reputation may be a mobility barrier that benefits group members. Finally, reputation may also require collective action by group members in order to maintain this reputation. In this context, managers of individual firms face the challenge of differentiating the reputation of their firm from that of their peers, particularly on the strategic group level.

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