

GETTING TO KNOW YOU: A THEORY OF STRATEGIC GROUP IDENTITY

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This paper develops a theory of strategic group identity that explains how strategic groups emerge in an industry and how they can affect firm behaviors and outcomes. In so doing, it provides a theoretical basis for the existence of strategic groups. We argue that managers cognitively partition their industry environment to reduce uncertainty and to cope with bounded rationality. Social learning theory and social identification theory are used to describe how cognitive groups coalesce into meaningful substructures and how a group-level identity emerges. We describe the ways in which macro level factors condition the development of groups and their identities. We introduce the notion of a strong identity, which characterizes any group sufficiently recognized and attended to by members to affect individual action. Groups with 'weak identities' are no more than transient agglomerations of firms and do not exist in any meaningful sense. These ideas are developed into propositions that describe the conditions under which groups with strong identities are likely to emerge. A second set of propositions describes their transformation over time. Identity strength is linked to both positive and negative outcomes in a final set of propositions. We show how strategic groups with strong identities can affect firm performance, resolving a longstanding problem which has plagued strategic groups research and conclude by suggesting some approaches for measurement and future research. © 1997 by John Wiley & Sons, Ltd.

INTRODUCTION

The topic of strategic groups has been one of the most active areas of strategic management research. *Strategic groups* refer to meaningful collections of firms or substructures within an industry. They are often defined as sets of firms with similar strategies, or as groups of firms isolated by common mobility barriers (Porter, 1979).¹ Recently, strategic groups research has

come under significant criticism. A lack of theory regarding how groups are formed, how they evolve, or how they influence outcomes has produced profound disagreements about how groups should be studied. Mixed research results have led some to doubt the existence of performance effects linked to groups (Barney and Hoskisson, 1990; Thomas and Venkatraman, 1988). Criticisms of the methodologies commonly employed in studying groups, such as cluster analysis, have led others to question even the existence of strategic groups, as distinct from random collections of individual firms (Barney and Hoskisson, 1990; Hatten and Hatten, 1987).

The most compelling evidence for the existence of meaningful groups of firms within industries comes from cognitive studies and from organi-

Key words: strategic groups, social learning, social identification, cognitive groups

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¹ In contrast to strategic groups, industries are defined in terms of similar demand and/or supply elasticities (Scherer, 1980). For a clear exposition of the distinction between strategic groups and industries, see Porter (1979). For comprehensive reviews of the literature on strategic groups, see

Ketchen, Thomas, and Snow (1993), Thomas and Venkatraman (1988), and McGee and Thomas (1986).

zational ecology. Studies of managerial cognition suggest that managers tend to view their industries in terms of groups of firms (Gripsrud and Gronhaug, 1985; Fombrun and Zajac, 1987; Porac, Thomas and Emme, 1987; Porac, Thomas and Baden-Fuller, 1989; Porac *et al.*, 1995; Reger and Huff, 1993; Lant and Baum, 1995). Limited evidence suggests that cognitive strategic groups can have positive effects on firm performance (Reger and Huff, 1993). Research in organizational ecology suggests that groupings of firms within an industry have significant effects on patterns of competition and population dynamics (Baum and Singh, 1994a, 1994b). Despite this promising start, the literature on cognitive strategic groups is insufficiently developed. We know little about the origins of cognitive groups, the conditions that affect their emergence, or their dynamics in terms of how they grow, change, and decline. We know little about what makes them persist and how they affect competition, cooperation, and firm outcomes.

In this paper, we contribute to the theory on cognitive strategic groups by developing the concept of a *strategic group identity*. We argue that cognitive groups emerge as managers partition their environment to reduce uncertainty and cope with bounded rationality. We draw upon social learning theory and social identification theory to describe how cognitive groups coalesce into structures that are more than the sum of their parts as the identity of the group develops. We describe how macro as well as micro factors condition the development of cognitive groups. We argue that when managers identify strongly with their strategic group, there will be significant outcome effects that may be positive or negative.

To elaborate these effects and to facilitate testing the theory, we develop three sets of propositions. The first describes the conditions under which cognitive strategic groups with strong identities are likely to form. The second describes the dynamic development of groups and their identities. The third set describes the positive and negative consequences of strong identification with a group. We argue that these effects are true group-level effects and are not reducible to either firm-level or industry-level effects. If cognitive strategic groups have real and measurable effects, then they are, in some sense, a real phenomenon as well since they have 'tracks' that exist even outside the minds of managers. Thus,

this theory holds some promise for shedding light on the longstanding 'existence' question in strategic groups research (Barney and Hoskisson, 1990). We close our paper with some suggestions for an approach to construct measurement and empirical testing.

In the next section, we develop the concept of a strategic group identity. We argue that it is a social construction, that, once formed, may have important consequences for group members. We use the term 'strategic group' to denote a meaningful substructure of firms within an industry—one that is acknowledged by industry participants and has significance for them. In contrast to some other definitions, we neither define strategic groups on the basis of similar strategies nor distinguish them on this basis. While members of the same strategic group may employ similar strategies, this is not a necessary condition for the groups to have significance.²

THE DEFINITION OF STRATEGIC GROUP IDENTITY

We define strategic group identity as follows:

A **strategic group identity** is a set of mutual understandings, among members of a cognitive intraindustry group, regarding the central, enduring, and distinctive characteristics of the group.

This parallels the classic definition of organizational identity, provided by Albert and Whetten (1985), in its focus on central, enduring, and distinctive characteristics. It differs from it, however, in two ways. First, a strategic group identity derives from a set of *mutual understandings* among members, rather than from the *shared* understandings that underlie organizational identity. This is a subtle, but important, distinction which we explain below. Second, it requires a common understanding among members that a group of some sort exists. In other words, it requires a cognitive group.

Because a strategic group identity depends upon the existence of a cognitive group, its defi-

² Strategic groups, as defined in this study, may map on to strategic groups defined in terms of similar strategies or traits, but only if the strategies or other identifying characteristics are the same as those deemed as important bases for categorization by managers.

nition must be consistent with the general principles governing cognitive categorization (Rosch, 1978; Lakoff, 1987). For this reason, we emphasize mutual understandings among members rather than a shared understanding. Group members need not perceive the group in exactly the same way, nor do members of a group need to mirror each other's characteristics. The term 'mutual understandings' implies that members, through history, discourse, and interactions, have come to understand the behaviors of other members and the underlying logic of their decision-making (Edwards, 1991). In economic terms, this is akin to firms having the ability to predict one another's reaction functions (Tirole, 1989).

Consistent with the Albert and Whetten (1985) definition of organizational identity and with cognitive categorization theories (Lakoff, 1987), the mutual understanding must be in regard to the *central* characteristics of the group. Central characteristics may take the form of family traits, or they may take the form of a set of core relationships or activities. Central traits include observable features, such as firm size, as well as intangibles such as product quality. Core relationships and activities include features such as overlapping social networks and common institutional histories. What is considered central for a given cognitive group is context-specific and grows out of firms' experiences in their particular industry settings. It will vary across industries and across groups within a given industry.

The focus on central features suggests that the boundaries of cognitive groups are indistinct. Indeed, this is the case for most social categories. The lack of a clear boundary implies that there will not be unanimity among observers regarding the membership of the group. The group will tend to be comprised of a core set of members, about which there is much agreement, and a less distinct periphery (Reger and Huff, 1993).

Just as the central characteristics of an organizational identity must be *enduring*, so must those of a strategic group identity. By this, we mean that there must be some degree of temporal stability or perceived continuity to the group and its central traits. Enduring characteristics may be the product of long-lived (sunk) capital investments or path-dependent research strategies. Organizational inertia and environmental stability also contribute to the endurance of a group's characteristics.

Lastly, the characteristics supporting a strategic group identity must be *distinctive*. Distinctive characteristics allow members to distinguish between the group and other categories. They also permit observers to distinguish between core and peripheral members of the group. Distinctiveness has to do with how different a group's characteristics are from those of other groups. It is supported by mobility barriers, which impede entry into the group by outsiders (Caves and Porter, 1977). In the next section, we describe the processes by which cognitive strategic groups emerge and develop an identity.

THE THEORETICAL FOUNDATIONS OF STRATEGIC GROUP IDENTITY

We preface our discussion by addressing level of analysis issues. This is necessary since our theory spans levels and adapts theories developed to explain individual behaviors to an organizational context.

Level of analysis issues

A strategic group identity presupposes cognitive and learning abilities of firms. This is problematic, particularly in light of Hatten and Hatten's (1987) warning against the temptation to anthropomorphize strategic groups. While individual managers have cognitive abilities, firms, strictly speaking, do not. Under what conditions, then, is it reasonable to apply a cognitive perspective collectively to a firm?

When a firm is led by a single top decision-maker, as many small firms are, the cognitive processes of the CEO are arguably the same as those of the firm. This is because although the firm may be composed of many individuals, the CEO has full responsibility for scanning the environment and charting a course of action for the firm. Few would dispute that a cognitive analogy from individuals to firms is applicable in such a circumstance.

More often, however, a firm is managed by a top management team that exercises collective decision-making. In this case, the team may be characterized as a collective actor with cognitive capabilities if group-level processes (Larson and Christensen, 1993) allow team members to reconcile their cognitive differences and make

decisions in a relatively unified and consistent manner. The team is, in effect, the representative agent of the firm, whose job is to act in the best interest of the organization as a whole. When the top management team is relatively homogeneous and when there is continuity of management, it is even more reasonable to view the firm as a collective cognitive actor. Team members are likely to be a more homogeneous group if they have spent most of their careers with the firm, since they will have been conditioned by similar prior experiences. Common experience through training programs and the like also provides a homogenizing influence. In addition, a firm's culture may exert a powerful homogenizing influence on team behaviors (Pettigrew, 1985).

A cognitive perspective may also apply collectively to a firm whenever there is a 'dominant managerial logic' (Prahalad and Bettis, 1986). A dominant logic can be thought of as a kind of knowledge structure that evolves over time out of the cumulative effect of the firm's strategic decisions. It contributes to the ability of top management teams to act in a unified manner and to make consistent decisions.

Walsh and Ungson (1991) argue that firm cognitions transcend those of a management team whenever organizational learning preserves knowledge within the firm, despite management turnover. A dominant logic facilitates this by providing a repository for organizational learning. If the dominant logic transcends the tenure of individual managers and serves to influence and coordinate individual actors, then organizational cognition is more than just an aggregation of lower-level phenomena; it has an existence and consistency of its own.

The micro foundations of strategic group identity

In this section, we describe how cognitive groups emerge and how a strategic group identity develops. We take cognition by a firm to mean cognition by individual top managers or by top management teams.

At the most basic level, cognitive groups arise as a byproduct of the categorization processes that managers employ in scanning and making sense of their competitive environment. Because industry environments are complex, with heterogeneous firms and a variety of organizational

niches, managers sort firms into groups on the basis of families of salient traits that differentiate one group from another. Grouping firms cognitively orders the environment and simplifies the managerial task of interpreting it and charting a course of action. It allows managers to conserve on their bounded rationality and cope with the dual problems of environmental complexity and uncertainty by restricting their attention to limited neighborhoods of action (Levinthal and March, 1993).

Simple categorization processes, however, are insufficient to explain meaningful strategic groups, capable of influencing firm behaviors and outcomes. If strategic groups were nothing more than the end product of categorization processes, they would be no more than the sum of their parts and could be analyzed as such. There would be no need for or justification for analysis at the group level.

Our notion of a cognitive strategic group goes beyond this. If a cognitive group orients observations and changes firm behaviors and attributes from what they would otherwise be, then the cognitive group becomes a meaningful substructure within the industry. It is this type of strategic group with which we are concerned and which may come to have an identity.

We utilize social learning theory (Bandura, 1986; Fulk, 1993) to explain how such strategic groups arise, as firms interactively model their behaviors on referent others. Social learning processes give shape to a cognitive group and lead to a collective understanding and appreciation of the group's attributes, upon which a group identity may be built.

A strategic group identity likewise involves more than just a simple perception or 'identification' of the group. It requires an attachment of member firms to the cognitive group that evolves as members come to identify with the group and align their activities to a greater degree with those of other group members. We draw from social identification theory (Tajfel and Turner, 1985; Ashforth and Mael, 1989) to explain how a meaningful strategic group identity develops.

Social learning

Social learning theory developed to describe how individuals learn and alter their behaviors in a

social context. It posits that actors model the behaviors of referent others, in order to learn vicariously about an uncertain environment (Bandura, 1986). It suggests that observational learning and reciprocal interactions among cognitive, behavioral, and environmental factors enter into individual decision-making (Wood and Bandura, 1989). It is this idea of relational modeling of vicarious learning that distinguishes social learning from trial and error learning and makes social learning a mechanism that can help explain interorganizational relations, including strategic group formation (Miner and Haunschild, 1995).

Just as social learning by individuals is driven by a need to cope with uncertainty and limited experience, so management teams, as organizational actors, have the same need. Firms face complex, uncertain, and dynamic industry environments. Their own experiences in this environment provide an insufficient basis for predicting industry developments, the actions of rivals, and future outcomes. Spender (1989) argues that managers make judgments by drawing on a shared pool of knowledge within an industry. Huff (1982) makes a similar argument in terms of 'borrowed experiences.' Fiegenbaum, Hart, and Schendel (1996) argue that managers look to other firms as strategic reference points to cope with their bounded rationality. These processes of observing competitor behavior and utilizing the observations to inform current strategy are reminiscent of the relational modeling described by social learning theory.

How does social learning by organizations explain the emergence of cognitive strategic groups? We see two interrelated subprocesses at work.

The first process explains why social learning focuses the attentions of managers upon a localized group of firms within the industry. Managers continually observe the actions of other firms as they scan the environment for useful information. Organizations engage in pairwise interactions with one another for a variety of reasons and thus have many opportunities to learn from one another at close range and from the results of their interactions. As managers accumulate experiences in interorganizational interactions, whether directly or vicariously, they reflect upon their experiences to discern which firms are important for them to observe and which are not, which firms they should emulate and which not,

and which firms are most relevant to them for either competitive or mutualistic reasons. Those reflections help them to sort firms in their industry environment, to determine which of them provide the most relevant information or potential for cooperation. Those types of observations and experiences that prove most useful will be repeated and refined, while those that prove less useful will be discontinued. In this manner, social learning processes give direction to the basic categorization processes that managers use to cognitively order their environment.

Over time, organizations encode their inferences about which firms constitute their most useful reference group into routines that guide their search behavior, whether they are gathering competitive intelligence, seeking resources from cooperative partners, or looking for solutions to difficult problems. These routines lead them to look foremost to the same group of firms, which become, as a result, a relatively stable cognitive group. The establishment of such routines allows the cognitive group to remain a reference point for the firm despite turnover in managers.

A second subprocess concerns the way in which firms learn about the reliability of their judgments about other firms and the potential for cooperation with those firms. Potentially mutualistic interactions will not persist if a firm experiences increased costs or poorer results due to unpredictable or noncooperative behaviors from the firms with which it interacts.

While transaction cost and principal-agent theories have dealt with these problems, our interest is in how social learning moderates transaction costs over a history of interactions (Ring and Van de Ven, 1992). As a firm accumulates experience regarding interactions with other firms, it can tolerate more uncertainty and risk than it could in the absence of that experience. Experience through social learning teaches the firm which types of firms are reliable interaction partners, which firms are more predictable in their behaviors, and which interaction situations present the most tolerable levels of risk. Social cues, such as signals or symbolic actions that suggest credible commitment, facilitate this learning (Ghemawat, 1991). The increased reliability of its judgments of others will lower a firm's transaction costs, promoting continued exchange and cooperation with those firms.

The influence of this reliability of judgments

of social relationships is discussed elsewhere in terms of trust relations (Coleman, 1990; Fukuyama, 1995). Ashforth and Mael (1996) suggest that personal trust may develop between two firms. By aiding firms in discovering which firms are trustworthy, social learning may lead an organization to concentrate its mutualistic activities among a group of firms whose behaviors it can rely upon and predict with greater accuracy. If, over time, the interactions among the group prove mutually beneficial, then the group may become a more stable cognitive entity, since members will conserve on search and transaction costs by concentrating their interactions within the group.

The group formation processes described above can be seen in terms of the variation–selection–retention processes common in population studies (Miner and Haunschild, 1995). Considerable variation characterizes an organization's initial choices in observing, modeling, and interacting with other firms. Experience teaches an organization to narrow its choices and to refine its social learning processes during the selection phase, as it learns which other firms make the most useful referents and exchange partners. As firms develop routines that channel their social learning and their interactions toward the group, they enter the retention phase in which the cognitive group stabilizes.

The social learning processes described above do not necessarily lead to the same groups of firms that result from economic theories of firm choice. Learning processes need not occur only within intraindustry groups. They can also take place across vertical chains and across industries, in the form of competitive benchmarking. Social learning may promote other types of cognitive groupings than the ones we discuss. Having said this, however, we also expect that the results of social learning processes will in practice mirror those of economic choice models. Social learning is most likely to produce meaningful cognitive groups within industries for several reasons.

Firms within the same industry are potential competitors, whose interactions will have significant direct consequences, regardless of whether they are competitive or cooperative. Any firm pursuing its own interests will have an interest in learning about and adjusting to the behaviors of its competitors. Members of the same industry are also likely to interact frequently, in that they

are selling similar products and services, often to the same customers, in similar geographic areas. They will thus have frequent opportunities to learn from each other. Finally, intraindustry competitors are members of the same population, but are also members of the same species (Baum and Singh, 1994a). Thus, observing competitors provides a firm with an opportunity to see how similar types of firms, often endowed with comparable resources, go about addressing opportunities and problems that are like the ones that it faces.

Social identification

Social learning processes lay the foundation for a strategic group identity to form by promoting the development of cognitive strategic groups. If organizations perceive a group, then in some sense, they have 'identified' that group, its characteristics and membership. A strategic group identity, however, involves more than a simple perception or 'identification' of the group. It requires an attachment of member firms to the cognitive group as members come to *identify with* the group. We draw from social identification theory (Tajfel and Turner, 1985; Ashforth and Mael, 1989) to explain how a meaningful strategic group identity arises.

Social identity theory clarifies the processes of association and valuation that cause organizations to identify with and attach themselves to a group. Like social learning theory, social identity theory developed to explain individual behavior. It articulates the processes by which an actor derives value and emotional significance from membership in groups (Shanley and Correa, 1992). Social identification stems, in part, from categorization processes. It cognitively orders the environment and provides actors with a means for defining themselves in relation to others (Ashforth and Mael, 1989). Identification with a group is an extreme form of relational modeling that requires actors to both define themselves and align their values in relation to the characteristics and actions of the group. The process of social identification leads to activities that are congruent with one's identity. Those activities augment an actor's association and alignment with the group, thus building attachment.

Organizations, as well as individuals, may be viewed as having identities (Fiol and Huff, 1992;

Albert and Whetten, 1985; Dutton and Dukerich, 1991; Dutton, Dukerich, and Harquail, 1994).³ An individual actor's self-concept comprises his personal identity, built on idiosyncratic characteristics, as well as a social identity that is built on salient group attributes (Ashforth and Mael, 1989). These are directly analogous to an organizational identity, built on firm-specific factors, and a group-level identity that is built on attributes common to group members.

Firms identify with a group when the association is valuable or when it clarifies their relationship to the broader business environment. For example, a growing investment banking firm may seek to be identified with the major 'bulge bracket' Wall Street firms for the benefits that such an identification would bring in terms of the ease of obtaining new business and the higher fees that could be charged (Baker, 1990). For cognitive strategic groups, social identification processes begin once a group is recognized as a distinct entity. Identification processes contribute to the increased homogeneity of firm strategies and behaviors within the group. Identification also leads to internalization by members of group norms and values, which may include norms of ethical behavior, hiring practices, or attitudes toward risk. Identification processes not only promote attachment to the group, but also change how group members learn from their interactions. Social identification processes make possible population-level learning, in addition to interorganizational learning.⁴ It is population-level learning that makes collective group action possible, such as the formation of trade associations or the development of group standards for technical performance.

Social identification also changes the way in which firms assess the reliability of members and their potential for future cooperation. If firms identify with a group, they may assess the reliability of others in terms of group experiences and norms rather than in terms of past dyadic relationships. Members may be seen as reliable (or at least predictable) because they are group members and not because of a particular history

of reliability in past interactions. This is similar to the concept of impersonal trust, as developed by Ashforth and Mael (1996), which refers to trust that accrues to an actor on the basis of group membership rather than direct experience. The locus of trusting behavior also changes as identification processes develop. Whereas trust between firms may have originally been between individual managers or management teams, under the influence of identification processes trust becomes more organizationally based.

In sum, social identification processes encourage the development of a group identity and explain the retention of the identity, once it has developed. As members become more attached to a group, they have more of a stake in the group and a stronger interest in continuing their membership. As judgments of reliability and trust are grounded in the group rather than in individual members, they will be less likely to change as a result of particular interactions. The cognitive shift towards the group as more than the sum of its members means that changes in the identity of the group will not occur rapidly or frequently. Overall patterns of interactions will need to shift dramatically before the group and its identity are reevaluated.

Macro foundations

Micro processes, such as categorization, social learning, and social identification, are shaped by the macro context in which they take place. This context includes economic, historical, and institutional forces. These affect the characteristics of firms, as well as the nature of competition within the industry. This, in turn, influences the bases of comparison that are available for categorization and the choice of referents that underlies social learning and identification. Moreover, macro forces determine the conditions under which micro interactions occur. The macro environment, in a sense, provides a 'structure of opportunities' for interactions (Blau, 1994). It also provides the global context of norms and values within which all firms in an industry or sector generally operate—what Abrahamson and Fombrun (1994) refer to as a 'macro-culture.'

Micro and macro forces are mutually reinforcing in their effect on cognitive strategic groups (Reger and Huff, 1993). The interplay among these forces is represented graphically in Figure 1.

³ Phillips (1960) carries this notion further to suggest that even industries may have identities.

⁴ Miner and Haunschild (1995) identify collective learning and learning based on dyadic organizational interactions as the two forms of population-level learning.

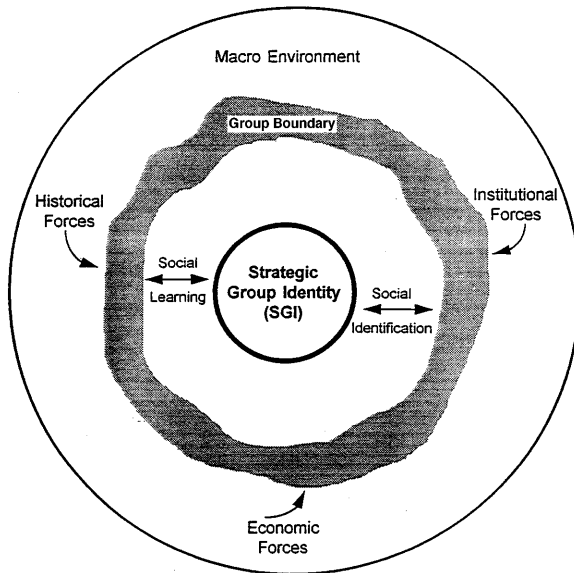


Figure 1. Forces generating a strategic group identity (SGI)

Economic, historical, and institutional forces operate within the macro environment, providing the conditions under which groups are perceived and coalesce. Micro level processes produce cognitive groups and facilitate the development of group-level identities. Social learning processes promote the development of cognitive strategic groups, enhance their temporal stability, and provide a foundation for the development of strategic group identity. Social identification processes align members' interests, enhancing the group's value and building attachment to the group, resulting in a group with which members identify. The group's boundary remains indistinct, due to differences in perception and the nature of social categorization.

Economic forces

While the learning and identification processes discussed above do not necessarily or exclusively focus on economic criteria, it is reasonable to expect that economic characteristics of firms, such as scale, scope, initial resource endowments, and technologies, form an important basis for categorization by top management teams. Their observability facilitates the mutual understanding that is necessary for the development of a strategic group identity. The most important of these characteristics are mobility barriers, which impede

movement into the group by potential entrants (Caves and Porter, 1977). While most firms in an industry may wish to belong to a group that included the industry leaders, only those firms sharing mobility barriers with the leaders will have the potential to belong to such a group.

Mobility barriers facilitate the development of a strategic group identity in a number of ways. First, they call attention to the similarity of group members relative to nonmembers. This stimulates interactions among members, reinforcing social learning and encouraging mutualism. Second, they focus the attention of members upon other firms within the group. This too increases other-oriented behavior within the group and encourages the development of an identity. Third, they increase the potential gains from group membership, by facilitating collusion among members (Porter, 1979). In addition, by fostering associations among economically similar firms, they reduce search costs for firms seeking solutions to common problems. For these reasons, mobility barriers increase the attractiveness of group membership and enhance social identification processes.

Historical and institutional forces

The historical and institutional context in which groups arise also influences their development. Historical factors are important in understanding the evolution of group structure within an industry. An historical perspective can shed light on the initial endowments of firms, the path by which assets have accumulated and capabilities have developed, and the role of luck. Due to path dependence (Krugman, 1991; Teece *et al.*, 1994), once a group has developed, it is likely to persist and become more defined and differentiated over time. The persistence of groups in such industries as airlines (Petzinger, 1995; Peteraf, 1993) and tobacco (Kluger, 1996; Miles and Cameron, 1982) has been strongly influenced by the historical paths by which these industries developed. Time compression diseconomies (Dierickx and Cool, 1989) prevent outsiders from imitating group members whose resources and capabilities developed over many years.

Institutional analysis provides a complementary perspective. Institutionalists view the evolution of industry structure as a socially constructed process that, over time, generates norms of behavior

that in turn shape subsequent competition. Cognitive groups are socially constructed through persistent patterns of association among members. Once groups are formed, isomorphic processes operate within them to homogenize them.

DiMaggio and Powell (1983) describe three isomorphic processes. The first is coercive isomorphism, which results from formal and informal pressures for conformity to group norms. The second is mimetic activity, by which firms model exemplars to reduce uncertainty. The third is normative pressure, which stems from efforts to legitimate a group. There are numerous sources of these pressures: trade associations, training institutions, a common labor pool, group members themselves, or interested outsiders, such as investors. Coercive isomorphism and mimetic activity help to homogenize a group internally and increase its distinctiveness from other groups. These processes affect the characteristics of a group. They also facilitate the social comparison processes that are necessary for a group to be perceived. Normative pressures, by legitimating a group, facilitate the recognition of its characteristics. If increased recognition stimulates the attachment of members to a group, normative pressures will facilitate social identification as well.

These institutional processes illustrate the tiered processes that link firms into groups and then into broader social structures. Mimetic activity is consistent with the social learning processes. It can operate at the level of accumulated learning from dyadic interactions between firms. Coercive isomorphism, however, requires some collective norms and a group identity through which norms can be enforced. Normative pressures link the group and its identity to a broader macro context. This broader structure can take the form of a status ordering of strategic groups within the larger environment (Coleman, 1990; Podolny, 1993). Abrahamson and Fombrun (1994) argue that institutional processes such as these generate interorganizational *macro-cultures*, which comprise beliefs and perceptions shared by managers across organizations within a broader organizational field, such as an industry or sector. The processes are generally inertial and lead to increased strategic similarity across firms over time. The macro-culture within which firms operate provides the basic set of behavioral norms, commonly held beliefs, and values that all firms

in an industry or sector recognize. The macro-culture is the basis upon which more specific group identities develop and helps to explain the temporal stability of strategic groups and their characteristics.

Porac *et al.* (1989) combine historical, institutional, and geographic explanations in their study of cognitive strategic groups in the Scottish knitwear industry. Within these groups, managers tend to share culture, education, family history, and career paths. Groups developed around small and isolated towns. This geographic isolation, along with the presence of trade associations and common training facilities, produced high levels of interaction and communication. These factors explain much of the distinctiveness and persistence of these groups.

Most prior research on strategic groups has failed to consider their cognitive bases. This may account, in part, for the inconsistent and inconclusive results of this research stream. In the remainder of this paper, we try to address this problem. To do this, we first develop the notion of identity *strength*. We then present propositions regarding the antecedents of a strength, the dynamic processes affecting strength, and consequences of a strong group identity.

THE STRENGTH OF AN IDENTITY AND ITS ANTECEDENTS

Individual members vary in the strength of their identification with a group. The level of identification of members with the group is a characteristic that we refer to as identity strength. When a group identity is strong (i.e., when there is strong identification with the group by member firms), it may exert an influence on organizational behavior and performance, distinct from firm-level and industry-level effects. When an identity is weak, then there is little discernable effect of the putative group on individual action. In this case, the existence of the group itself must be called into question (Hatten and Hatten, 1987; Barney and Hoskisson, 1990). Without an identity strong enough to alter behaviors, a strategic group cannot exist in any meaningful sense. In this section, we develop a series of six propositions regarding the antecedents of identity strength.

Strategic group identity strength

We define *strategic group identity strength* to be the mean level of the identification of member firms with a cognitive strategic group, adjusted for the extent of variation of member firm identification.⁵ The stronger the identity, the more member firms recognize and value their membership in the group.

The strength of an identity is determined by the same forces that encourage the emergence of the strategic group. It depends upon the degree of social learning, which arises out of observation and mutual modeling processes, and upon the degree of social identification, which results from processes of valuation and attachment. The greater the degree to which individual members engage in social learning and social identification behaviors, the stronger their identification with the group. The more individuals engage in observation of other members, the stronger their identification with the group. The higher the degree of both mutual understanding and mutual modeling, the stronger the identification with the group. The greater the degree of association with other members, the stronger the identification with the group. Finally and most importantly, the higher the valuation of the association, the stronger the identification with the group. Strategic group identity strength is the cumulative result of these individual level processes.

Because the micro processes which produce a strategic group identity operate over a continuous range, some groups will have stronger identities than others. The stronger the identity, the greater will be the influence of the group on firm-level behaviors and outcomes. We refer to a *strong identity* as one that is strong enough to make the group a recognized and meaningful aggregation, capable of affecting individual behaviors. By a *weak identity*, we mean one insufficient to permit any significant alteration of firm-level behaviors. A group with a weak identity is not a meaningful group; it is nothing more than an aggregation of individual actors. In contrast, a strong identity implies the existence of a meaningful cognitive group.

⁵ For example, of two groups with a similar level of identification, however measured, the one with the smallest variation among member firms would have the strongest identity.

The antecedents of identity strength

Under certain conditions, the processes of observation, mutual modeling, association, and identification occur with greater frequency and intensity. These are the conditions, then, that promote not only the emergence of cognitive strategic groups, but the development of strong strategic group identities as well. They are conditions that characterize particular segments of the competitive landscape or characterize certain firms within that landscape.⁶ We develop below a series of propositions which describe the effect of these conditions on strategic group identity strength. These propositions parallel, to some extent, the antecedents of social identification developed by Ashforth and Mael (1989).

Our first proposition concerns the effect of high-status firms within a population of firms or an industry segment. A firm's status refers to its location within a broad social ordering of competitors. Its location within this ordering may, in turn, reflect its relative position on other attributes that are indicators of success, such as size, product quality, and innovativeness.

The presence of high-status firms affects the emergence of strategic groups with strong identities in several ways. High-status firms serve as cues which help other firms narrow their observational field. High-status firms frequently occupy central positions within industry networks, which makes them a crucial referent for reasons of resource dependence as well as for their informational value (Harrison, 1994; Gulati and Gargiulo, 1996). By serving as an example worth emulating, they spur mimetic processes. By focusing mimetic activity on a common object, their presence serves to coordinate the modeling activities of a number of firms. Over time, these activities will tend to homogenize a set of firms to some degree and enhance mutual understanding among them. By enhancing the underlying processes of mutual modeling and mutual understanding, the presence of high-status firms contributes to the emergence of a group and the development of a strong group identity.

When there are several high-status firms occupying the same niche in demand space, these

⁶ The competitive landscape itself may be differentiated into segments or niches by differences in demand, technology, or resource requirements.

forces may operate even more strongly. High-status firms will engage in intense scrutiny of one another since they compete directly for customers, high-quality employees, and other resources. High-status firms are likely to have common exchange partners or draw from the same labor pool, facilitating the transfer of information. They may interact more often with one another than with other firms because there are greater opportunities for productive exchange (Boudon and Bourricaud, 1982). They may seek association with one another as a means to enhance their own firm-level organizational identity and image. By becoming part of a high-status group, they may enjoy prestige that extends beyond that of their own organization. The result of these forces is to increase the mutual understanding, association, and identification of these firms with one another. As the value of the association is perceived, the group will coalesce and the strength of the identification with the group will increase. These arguments suggest the following proposition:

Proposition 1: The higher the status of firms in an industry niche, the greater that likelihood that a strong group identity will develop.

Physical proximity may also promote the emergence of groups with strong identities. Krugman (1991) documents the widespread occurrence of industries that cluster on a geographic basis. Such concentrations promote the processes underlying social learning and identification in a number of ways. Geographic proximity draws the attention of rivals to one another and leads to greater observability. Proximity contributes to more frequent interaction and greater information exchange (Teece, 1994; Levinthal and March, 1993). The interactions of proximate firms may have special significance because of potential benefits from labor pooling, shared services, and technological spillovers (Krugman, 1994). Managers of localized firms are more likely to encounter one another in social settings and to know one another on a personal basis, facilitating mutual understanding and information transfer. Because proximate firms often share local buyers and input sources, they are also likely to gain information about one another through these intermediary sources.

The increased frequency of interactions that

result from proximity will influence identity strength in three ways. First, more frequent interactions will provide more opportunities for observation. This will enhance both relational modeling and social learning. Second, more frequent interactions may reduce conflict (Nelson, 1989), provided that there are not fundamental clashes of interest. This may improve communication and enable firms to consider cooperative activity. Third, increased interaction enhances the opportunity for mutually beneficial exchange, which will increase the value of increased association with other firms. The result of each of these factors will be to promote both the emergence of a group and the development of a strong identity. This suggests the following proposition:

Proposition 2: The greater the geographic proximity of firms in an industry niche, the greater the likelihood that a strong group identity will develop.

Opportunities for interaction and social learning among firms in an industry niche also increase with the density of the network of associations that connects them. By network of associations, we mean the pattern of interactions that link members, directly and indirectly. By density, we mean the number of connections and the frequency of interactions along those connections (Burt, 1992).⁷ For example, information can be passed from one group member to another through their mutual ties to suppliers, wholesalers, customers, trade associations, and other linking organizations.

The more linkages there are between firms, the more likely it is that an association of some kind will develop. To the extent that such linkages are the result of exogenous conditions, such as government regulations, social learning and identification processes may be channeled due to resource dependence (Pfeffer and Salancik, 1978; Oliver, 1990; Mizruchi, 1992). Interorganizational linkages may also be determined by past associations. Firms are likely to continue to interact with firms with which they have had positive interactions in the past and to narrow their subsequent choices regarding potential associations on the basis of their past experiences (Gulati and

⁷ This property is also referred to as 'cohesion' (Burt, 1987; Marsden and Friedkin, 1993).

Gargiulo, 1996). Prior successful associations may deepen over time and come to include a wider range of firm activities.

As linkages between firms become more dense, more information will be conveyed through them. Parties to dense networks will learn about the resources possessed by their partners, as well as their reliability in cooperative action. This will reduce uncertainty and build trust regarding continued association (Podolny, 1994; Gulati and Gargiulo, 1996), contributing to the development of a cognitive group with a strong identity. These arguments suggest the following proposition:

Proposition 3: The greater the density of a network of associations among a set of firms, the greater the likelihood that a strong group identity will develop.

The degree of structural equivalence among a set of firms also increases the likelihood that a cognitive group with a strong identity will develop. Structural equivalence among firms in a network implies that firms will receive similar flows of information and are likely to arrive at similar interpretations (Burt, 1992). Because of their similar positions in terms of resource exchange and the likelihood of similar worldviews, structurally equivalent firms are more likely to look to one another as significant referents. These factors will serve to increase mutual understanding, mutual modeling, and identification processes. These arguments lead to the following proposition:

Proposition 4: The greater the structural equivalence among a set of firms, the greater the likelihood that a strong group identity will develop.

The processes that enable the emergence of groups with strong identities are also influenced by the nature of the competitive norms within an industry or industry niche. Competitive norms are collective standards of behavior that determine the nature of rivalry within an industry or industry segment (Coleman, 1990). They comprise the rules of engagement for firm interactions. Norms may be characterized in terms of cooperation or conflict (Trice and Beyer, 1993). Cooperative norms may develop from multimarket contact or from structural equivalence of firms' strategists, for example.

When the norms of market behavior are relatively more cooperative, groups with strong identities are more likely to emerge. Cooperative norms imply greater trust, which facilitates the sharing of information and a greater degree of mutual understanding. Cooperative norms enhance opportunities for positive interaction. They reduce transaction costs, facilitating the attainment of common objectives (Kreps, 1990). They increase the likelihood of cooperative venturing, thereby expanding the opportunity sets of individual firms. By focusing attention on commonalities, they promote mutual understanding among firms. By fostering communication, they enhance mutual understanding, social learning, and mutual modeling. The resulting increase in association, mutual understanding, and mutual modeling serves to increase the strength of the group identity. These arguments suggest the following proposition:

Proposition 5: The more cooperative the competitive norms within an industry niche, the greater the likelihood that a strong group identity will develop.

In some cases firms may identify with several groups (Reger and Huff, 1993). For example, a firm could identify with one group in its product market but with a different group when facing suppliers. Corporate diversification is likely to produce this condition, since a diversified firm will serve several product markets simultaneously and can belong to strategic groups in each separate market. Multiple group identities result in role conflict and distraction within a firm's management team that can inhibit the development of a group identity or weaken the strength of an existing identity by weakening the attachment of member firms (Ashforth and Mael, 1989). In addition, multiple group identities may weaken the understandings regarding a particular group's attributes if it leads firms to confound the attributes of different groups. By inhibiting mutual understanding, identification, and attachment, these factors will make it less likely that a strong strategic group identity will develop or, if developed, be maintained. Our next proposition follows accordingly:

Proposition 6: The greater the corporate diversification of firms in an industry niche,

the lesser the likelihood that a strong group identity will develop or be maintained.

The above propositions concern factors which are largely static phenomena. Strategic groups and their identities, however, are dynamic entities that grow, change, and decline. In the next section, we develop a set of propositions that concerns the factors influencing the dynamics of strategic group identity.

DYNAMIC PROCESSES AND IDENTITY STRENGTH

Managerial flows within an industry or niche are one means by which mutual understandings regarding competitive dynamics and strategy can change. As managers of successful firms move to other firms within their industries, the perspectives gained in prior experience become inputs into current firm decisions. Recent research has shown that job flows within industries, whether stemming from job creation, destruction, or relocation, are relatively common (Davis, Haltiwanger, and Schuh, 1996). The diffusion of managerial and professional workers within the biotechnology and semiconductor industries provides examples of how these flows can affect intraindustry groups (Saxenian, 1996; Powell and Brantley, 1992). These considerations suggest the following proposition:

Proposition 7: The greater the managerial flows within an industry, the greater the likelihood that strong group identities will develop and be maintained in that industry.

Managerial flows into an industry from outside the industry will have the opposite effect. By introducing new mental models and norms of behavior into the industry, they may impede mutual understanding and destabilize groups. The variation brought into the system by such managerial movement may break down the routines that served to stabilize group behavior and support an identity in the past. The above considerations suggest the following proposition:

Proposition 8: The greater the managerial flows into an industry from outside, the lesser the likelihood that strong group identities will develop and be maintained in that industry.

The dynamics of the industry and larger macro environment also have an effect on how strategic groups and their identities develop, change, and dissolve. The direction of these effects will depend, in part, upon the stage of evolution of an industry and the nature of the changes occurring in the industry and macro environment.

Early in the history of an industry, the lack of legitimacy can threaten the existence of even the most capable players (Hannan and Freeman, 1989; Delacroix and Rao, 1994). Failure to establish legitimacy may imperil investment funds, preclude political favor, and hinder firms in their efforts to establish ties and acquire resources. Under such conditions, firms may look to one another for solutions and support, seeking strength in numbers. By bonding together, they may obtain greater legitimacy as a group than any set of firms can individually. The process by which legitimacy is established emphasizes similarities among firms over differences. External observers, in conferring legitimacy on a nascent industry, look at the general product offerings of firms rather than those of individual firms. Individual firms gain legitimacy by blending in with others. Firms seeking legitimacy for themselves will look to other firms and model themselves after successful ones.

As the legitimacy of an industry becomes more firmly established, firms within a group can focus more on competing with one another, knowing that the basis of their competition is secure. At this stage, there will be greater more variation in firm practices, more attempts at differentiation, and less emphasis on collective action and group identity. These considerations lead to the following:

Proposition 9: Threats to the legitimacy of an industry will increase the likelihood that strong group identities will develop and be maintained in that industry.

Entry into an industry may destabilize existing groups and weaken their identities. If mobility barriers are weak, then entry into the industry may lead to larger numbers of firms in existing groups. This will increase the forces of fragmentation, which in turn will increase the likelihood of group breakdown. This is especially true, since there appear to be a limit to the number of members that perceptual groups can accommodate. Even if mobility barriers protect a strategic

group from entry, entry into the industry can weaken existing group ties. By introducing variation into the industry, entry may change the bases for competition and upset the industry equilibrium. Group members may perceive the need to realign themselves and look for solutions outside the group. On the other hand, if members perceive new entry into the industry as a threat to the identity and existence of the group, they may respond by increased attention to the group. This mirrors the way in which individuals respond to threats to their identity (Ashforth and Mael, 1989). Because of these opposing effects, the response of groups to entry into the industry cannot be predicted *a priori*. The effect of entry into the group, however, can be predicted:

Proposition 10: New entry will weaken the identity of a strategic group.

Exit, whether due to bankruptcy, merger, or the redeployment of firm assets to other product markets, reduces the number of firms in an industry. With fewer firms, the likelihood is increased that firms will be able to attend to and interpret the actions of others. The number of interactions among remaining players is likely to increase, aiding social learning. Moreover, by increasing the observability of actors, it increases the likelihood that the trust among remaining firms can develop. Up to a point, this effect is reinforced if group members believe that the exit is in response to some threat to the industry and to the group. These considerations suggest the following:

Proposition 11: Exits from an industry will increase the likelihood that strong group identities will develop and be maintained in that industry.

External shocks can also trigger increased group orientation and identification. Rival firms are inherently oriented primarily towards autonomous action. Group concerns will become relatively more salient only when circumstances make such an orientation valuable or necessary. This implies that identification with a group will be more likely in times of economic duress than in times of prosperity. When the existence of the group or individual firm is threatened, group orientation and group action may provide effective or per-

ceived redress. In good times, there may be a latent identification with the group, but individual firm concerns will dominate group concerns.

External shocks encompass events such as regulatory change, technological change, changes in consumer preferences, or product catastrophes (e.g., asbestos, airline crashes). When the magnitude of common problems is great, firms may join forces or look to one another for solutions. This suggests the following:

Proposition 12: Exogenous shocks to an industry will increase the likelihood that strong group identities will develop and be maintained in that industry.

The six propositions in this section have considered how strategic group identity changes as a function of the dynamic processes by which industries and their niches form, stabilize, and then destabilize. These processes include the flows of managers into and out of the industry, the entry and exit of firms in the industry, and the development of legitimacy that firms in an industry or niche enjoy. We also considered the general processes of technological change, regulatory change, and consumer acceptance that stabilize an industry, but which may lead to period shocks to industry stability. In the next section, we consider the consequences of a strong strategic group identity, both positive and negative.

THE CONSEQUENCES OF IDENTITY STRENGTH

A strong identity will focus the attention of group members, influence their interpretation of the environment, alter motivations, and affect patterns of interaction within and between groups. Because it affects the thinking of firms' decision-makers, it will likely affect the goals, behaviors, and outcomes of firms. It will also affect behaviors and outcomes since it affects the locus and nature of firm interactions. While a strong group identity may have many types of consequences, we restrict our discussion to those consequences that are related to a firm's success in the marketplace. They may be either positive or negative.

Positive consequences of a strong strategic group identity

There are three broad types of positive consequences. These include coordination effects, efficiency effects, and reputation effects. We discuss each in turn.

Coordination or collective action stems from the recognition and valuation of interdependence and from the group orientation that accompanies the development of a strong strategic group identity. The recognition of mutual interdependence is a natural result of relational modeling built on observation and interaction. Firms become acutely aware that the actions of each firm affect others in the group because of these processes. The valuation of this interdependence occurs as firms come to realize potential benefits from cooperation. Cooperative effects include explicit collusion, tacit collusion stemming from mutual reference points, and various types of coordination. They may increase market power or enhance bargaining position. Such effects are not, however, restricted to price coordination. They include cooperative ventures and alliances as well as the building of joint mobility barriers. They also include collective action to secure favorable legislation and treatment from regulators. Miles and Cameron (1982) provide an example of this in their study of the reactions of cigarette firms to reports of the U.S. Surgeon General on the dangers of smoking. These considerations suggest the following proposition:

Proposition 13: A strong group identity will result in higher levels of collective action by group members.

A strong group identity also fosters information exchange among member firms. With the increased orientation to the group that a strong identity engenders, firms receive more information about their immediate environment. They give it more credence, since it comes from observing similar firms facing similar constraints. Because firms can glean highly applicable information by observing similar others, their search costs for solutions to their own problems are lowered. With such information, firms can more readily adopt successful business practices, drop unsuccessful ones, and avoid environmental pitfalls. Idiosyncratic business failures may be

reduced, while firm survival and profitability may be enhanced. This is analogous to the argument of Astley and Fombrun (1983) on how collective strategies can improve adaptation. Benefits from information exchanges are one type of efficiency gain from a strong group identity. Information exchanges among members also enhance the group's ability to develop and utilize resources. Teece (1994), for example, argues that interaction patterns and information sharing among firms are critical influences on an industry's rate of innovation. The high rate of information exchange associated with a strong identity allows innovations to be generated at lower cost. In addition, the enhanced innovation fostered by interaction and exchange is itself a source of increased efficiency. These considerations suggest the following proposition:

Proposition 14: A strong group identity will result in efficiency gains due to information exchange among group members.

Since a strong identity is likely to be recognized by outside observers, it will engender reputation effects. A strong identity signals information about member firms to outside observers and reduces their search costs (Dranove and Shanley, 1995). This will differentiate the products and services of member firms from those of others in the industry. Customers, for example, rely on the reputation of the largest U.S. airlines as a signal of safe, reliable service. Reputation effects from identity are positive, since groups with weaker identities are not likely to experience any reputational benefits from association with the group. This suggests the following proposition:

Proposition 15: A strong group identity will increase a group's positive reputation.

The effects of high status on identity strength, as described in Proposition 1, and of identity strength on reputation, as described above, are mutually reinforcing. Status is distinct from reputation in that it refers to a group's *relative* position in a social ordering which depends on the characteristics, actions, and history of other groups. Reputation, in contrast, refers to a favorable and publicly recognized standing that does not involve an explicit ordering. It derives foremost from the attributes, activities, and evolution

of the focal group. Status is largely exogenous, while reputation is endogenous to the processes with which we are concerned. Because of this, we focus on status as a cause of identification, and reputation as an outcome.

Nevertheless, reputation and status are interconnected. The enhanced reputation that accrues to a group with a strong identity will elevate the position of member firms within broader status orderings. If a positive reputation improves economic performance, then this will enhance the valuation of the group by members, thus reinforcing the group's identity. This feedback effect would be even stronger to the extent that status is a function of prior performance as well (Podolny, 1993).

Negative consequences of strategic group identity

There are three broad types of negative consequences. These include reduced flexibility, strategic myopia, and suboptimizing behavior. We discuss each in turn.

In the preceding section we argued that the threat posed by environmental shocks and the accompanying uncertainty may lead to greater orientation and identification with the group. This is because managers are searching for solutions to problems with which they have had little direct experience and because they perceive that there may be safety in numbers. While there may be some benefits to such actions, there is also an implicit danger. A strong attachment to a group may be associated with resistance to change and an inability to adapt to new conditions. This stems from the inertial habits that top managers develop in attending to group norms and from the sunk nature of resources that group members have in common, which are difficult to redeploy. It also is the product of set routines that have developed to guide behaviors within the group.

Strong identification with a group may limit a firm's strategic flexibility and nimbleness of response. Bresser and Harl (1986) argue that interconnectedness among group members increases the impact of disturbances and reduces the collective's capacity to adapt successfully to environmental threats. These issues suggest the following proposition:

Proposition 16: A strong group identity will

increase the resistance to change and inflexibility of group members.

The focal point provided by a strong identity may overly focus the attention of members on the group and away from outside competitors (Porac and Thomas, 1990; Levinthal and March, 1993). For example, Porac and his colleagues (1989, 1995) report that Scottish knitwear firms do not recognize Japanese or Italian knitwear firms as competitors, despite the obvious substitutability of the products. Such behavior reduces the opportunities for learning and coordination across groups and makes members vulnerable to surprise competitive attacks from outside the group.

The economic theory of strategic groups suggests that competition across groups should be greater than competition within groups (Porter, 1979). This appears to contradict the results of the Porac studies cited above, since the Scottish firms ignore the activities of nonmember firms and make little attempt to compete with them actively. The contradiction, however, is only at the perceptual level and, paradoxically, reinforces the economic argument. The fact that firms do not perceive a competitive threat from outside the group only means that they will be in no position to monitor the threat and plan a counter-attack. They may be blindsided by competition from outside the group while seeking only to control competition within the group (Zajac and Bazerman, 1991). Actual competition from outside the group will be stronger relative to competition within the group because it is either not perceived or else, if perceived, is not regarded as significant or lasting. These issues suggest the following proposition:

Proposition 17: A strong group identity will result in a myopic view of the industry domain and its interests on the part of group members.

By inducing firms to substitute group interests for private interests, a strong identity can also result in more general forms of suboptimizing behavior. In attending to group-level concerns, firms may fail to maximize shareholder value. For example, a strong identity may lead firms to devote resources to building joint mobility barriers that would otherwise be devoted to creating individual isolating mechanisms. If the benefits

from joint profit maximization are less than the benefits from individual profit maximization, then firms that act in concert are suboptimizing.

A strong identity promotes the pursuit of group-level goals that, to some degree, conflict with individual firm interests. For example, the costs of orienting the firm's activities to the group will reduce the amount of resources available for alternative uses. The attachment of members to groups may make the accurate assessment of opportunity costs more difficult. It may bias a firm's perceptions so that mistakes are likely. With a strong identity, the perceived benefits of group affiliation may exceed the actual benefits. A strong identity may also distort member firms' perceptions of the relative costs and benefits of imitation vs. differentiation. In choosing to invest resources in imitating other group members, they may forgo more valuable opportunities to invest in resources that may differentiate them from other firms.

Once a firm has invested in group membership, the balance between group orientation and individual orientation may change for two reasons: risk pooling and decision bias. First, by aligning its activities with those of other members, a firm effectively pools its strategic risk for those activities. If the firm makes strategic mistakes, it will not suffer alone and so its relative standing with respect to other group members will not change. In contrast, the firm bears the full extent of the risk for decisions that are made in isolation from others. Given the proclivity of managers to be risk averse and the substantial risks that attend major strategic decisions, group members may emphasize imitation over differentiation even when potential gains from differentiation may be greater. Second, managers may choose to invest resources in group activities over individual pursuits out of a desire to protect prior investments in group membership. This is analogous to the 'sunk cost' fallacy (Ghemawat, 1991) and is an example of decision bias. Finally, attachment to the group may provide affective benefits to managers that are not shared by the firm's shareholders. For example, top managers may imitate their counterparts in high-status firms in the group, even if such imitation does not produce tangible benefits for the firm. This type of suboptimizing behavior is an example of an agency problem, in that it is due to managerial incentives that differ from those of shareholders (Eisenhardt, 1989). These issues suggest the following:

Proposition 18: A strong group identity will lead to suboptimizing behavior by member firms.

The six propositions in this section have considered the outcomes and impacts of a strong strategic group identity for member firms. These effects can be positive or negative in their effects on firm profitability. These conflicting effects can potentially occur simultaneously. This is one reason why prior research on strategic groups has produced inconclusive results. Other reasons for the inconclusive and noncumulative nature of prior research on groups concern the methodological problems that have plagued prior studies. These issues are considered in the following section.

MEASUREMENT ISSUES

The value of new theory depends ultimately on whether it receives empirical support. Empirical work on group identities requires the development of theory-based ways to measure identity strength. To this end, we offer some suggestions.

Identifying groups

Testing either set of propositions requires researchers to begin by identifying a set of cognitive groups in an industry. This should be done in a way that is consistent with categorization theory, allowing for differences in perceptions and fuzzy boundaries. There are two basic approaches that may be taken, both of which involve surveying managers.⁸ The first is to ask managers to categorize the firms in their industry into groups, allowing for the possibilities of outliers, and to aggregate over these groupings to identify a set of cognitive groups (Reger and Huff, 1993). Our limitation of this method is that managers may be unable to accurately group participants in the industry that are located far from their own place in characteristics space. This will be true to the extent that managers are focused mainly on their own groups, as theory

⁸ We do not advocate more indirect approaches, such as surveying industry experts. While groups identified by experts may map directly onto those identified by industry participants if the strategic group identities are sufficiently strong, there is too much room for noise.

suggests. This is especially problematic in industries where the number of participants is large and where there are many distinct niches.

A second method for identifying groups is to ask each participant to identify their own group and to derive cognitive groups by aggregating over these groupings. This method makes a greater allowance for the bounded rationality of managers and may be more consistent with recent work on managerial cognition. A crucial issue in this approach is the basis for aggregation. Groups need to be identified on the basis of actual relationships and not just on similarities in firm characteristics or statistical associations. Indeed, a critical problem with the strategic groups literature to date has been a focus on clustering without attention to the actual relationships among group members. Since clustering algorithms will generate statistically significant clusters even among random data, groups identified without attention to underlying relational bases are likely to be spurious (Barney and Hoskisson, 1990).

The study by Lant and Baum (1995) of competitive groupings in the Manhattan hotel industry provides a good example of how to aggregate managerial perceptions with relational bases in mind. They collected data from operating managers on which hotels they considered to be their most relevant competitors. They also queried managers regarding the relationships they perceived between their own hotels and their competitors on dimensions important to them. This information was aggregated to produce a matrix of competitor identifications for all hotels in Manhattan. This matrix provided the input for the cluster analysis that identified groups within the industry.

Measuring identity strength

Once cognitive groups are identified, then the strength of their identities can be measured as the mean of the degree of the identification of individual member firms with the group, adjusted for the degree of variation. Alternative measures could be developed in terms of the degree of members' mutual understandings, valuation, and attachment to the group. The degree of mutual understanding among group members might be measured in the following way. One could survey top managers of group members regarding the attributes of their own firm and those of other

members. For each pair, one could calculate how accurately each firm's view of the other matches the other's view of itself. From these pairwise correlations, one could calculate an aggregate correlation for the entire group that captures the degree of understanding of firms regarding one another.

Another possible measure of mutual understanding would be an aggregate correlation of the views of all firms regarding the characteristics of particular members. If there were high correlations across the group on the characteristics of individual members, this would indicate the presence of similar mental models, even if the individuals had a self-image that differed from the common perception. Mutual understanding could also be measured by assessing the correlation across members regarding their perceptions of the central characteristics of the group. High correlations would indicate similar mental models regarding the group that could be a basis for attachment and coordinated actions.

We offer these suggestions not to limit the choices of empirical researchers, but to suggest ways in which measures can be developed that are consistent with theory. Researchers may also wish to consider using multiple measures of identity strength so that they will not be limited by any single measure. In our concluding section, we discuss the implications of our arguments for future research on strategic groups.

IMPLICATIONS FOR RESEARCH ON STRATEGIC GROUPS

Much of the prior research on strategic groups has been concerned with the effects of strategic groups on ultimate measures of firm performance, such as profitability.⁹ We have focused instead on intermediate outcomes, such as efficiency and flexibility. These have obvious links to firm, group, and industry profitability. For example, efficiency gains due to information exchange translate to cost savings for member firms. Since profits increase as costs decrease, *ceteris paribus*, the link to firm profitability is clear. Cognitive

⁹ The studies of Cool and Dierickx (1993) and Peteraf (1993) on the effect of strategic groups on rivalry (an intermediate outcome) are an exception.

strategic groups affect performance because of their effect on firm conduct.

Future research on the link between strategic groups and profitability should incorporate strategic group identity and contextual variables into an appropriate economic model. Many of the implications of our arguments are consistent with the implications of collusive models of behavior among group participants. Indeed, just as the strength of group identity can vary from strong to weak, so can the explicitness of collusion among group members vary from explicit collusion, in which members of a group jointly agree to raise prices or restrict output, to more tacit arrangements, such as pricing rules of thumb, price posting, or price leadership by a dominant firm. Coordinated behavior within a group can even arise if there is neither explicit cooperation among firms nor an intent to collude. In the basic Cournot oligopoly model, for example, firms take into account their expectations of rivals' output decisions, but act independently. These economic models of oligopoly are consistent with groups that vary in the strength of their group identity.

For group identity to contribute to our understanding of firm profitability, it must add explanatory power to such an economic model. If the effects of group identity are indistinguishable from either industry effects or individual firm characteristics, then the construct, however intuitive, has little analytical value. If strategic group identity, on the other hand, has clear implications that cannot be derived from industry or firm characteristics, then it increases explanatory power and provides support for the performance effects of strategic groups. In this sense, our concept of identity is consistent with economic analyses of strategic interactions in industry settings (Bresnahan, 1989). We advocate industry studies rather than interindustry settings for this research. A single industry setting provides natural controls, permits the researcher to acquire a sufficient depth of industry-specific knowledge, and is consistent with research methods utilized by the 'new empirical industrial organization' economists (Bresnahan, 1989). Within an industry, analysts should expect to find outcome effects only for groups with a strong identity.

Our framework suggests that the inconsistent, noncumulative nature of prior research on strategic groups is due to a number of conceptual failings. First, by focusing on common strategies,

prior studies have failed to identify groups in a way consistent with micro processes of categorization and learning. Second, they have failed to distinguish those groups which might affect outcomes from spurious groups. Third, they have failed to distinguish adequately between industry-level, group-level, and firm-level effects. Finally, they have failed to account for intermediate types of outcome effects. Since intermediate effects have both positive and negative implications for ultimate outcomes such as firm performance and survival, a focus on final outcomes is likely to produce inconclusive effects.

The idea of a strategic group identity is a natural outgrowth of cognitive and behavioral perspectives on groups. It is a social construction derived from the relational modeling that firms perform in complex social fields. Beyond that, strategic group identity links the micro-level processes by which firms interact with their macro-level historical, economic, and institutional contexts. In principle, our hypotheses regarding identity are testable. Clearly, complex and innovative analytical strategies are required. We are hopeful, however, that this new construct will add a useful dimension to both empirical work and extant theory regarding our understanding of firm behaviors and their consequences.

ACKNOWLEDGEMENTS

We thank Jane Dutton, Mary Tripsas, and two anonymous SMJ referees for helpful comments.

REFERENCES

- Abrahamson, E. and C. Fombrun (1994). 'Macrocultures: Determinants and consequences'. *Academy of Management Review*, **19**, pp. 728-755.
- Albert, S. and D. A. Whetten (1985). 'Organizational identity'. In L. L. Cummings and B. M. Staw (eds.), *Research in Organizational Behavior*, Vol. 7. JAI Press, Greenwich, CT, pp. 263-295.
- Ashforth, B. and F. Mael (1989). 'Social identity theory and the organization'. *Academy of Management Review*, **14**, pp. 20-39.
- Ashforth, B. and F. Mael (1996). 'Organizational identity and strategy as a context for the individual'. In J. A. C. Baum and J. Dutton (eds.), *Advances in Strategic Management*, Vol. 14. JAI Press, Greenwich, CT, pp. 19-64.
- Astley, W. G. and C. J. Fombrun (1983). 'Collective strategy: Social ecology of organizational environ-

- ments', *Academy of Management Review*, **8**, pp. 576–587.
- Baker, W. E. (1990). 'Market networks and corporate behavior', *American Journal of Sociology*, **96**, pp. 589–625.
- Bandura, A. (1986). *Social Foundations of Thought and Action*. Prentice-Hall, Englewood Cliffs, NJ.
- Barney, J. B. and R. E. Hoskisson (1990). 'Strategic groups: Untested assertions and research proposals', *Management and Decision Economics*, **11**, pp. 187–198.
- Baum, J. A. C. and J. V. Singh (1994a). 'Organizational hierarchies and evolutionary processes: Some reflections on a theory of organizational evolution'. In J. A. C. Baum and J. V. Singh (eds.), *Evolutionary Dynamics of Organizations*. Oxford University Press, New York, pp. 3–22.
- Baum, J. A. C. and J. V. Singh (1994b). 'Organizational niches and the dynamics of organizational mortality', *American Journal of Sociology*, **100**, pp. 346–380.
- Blau, P. M. (1994). *The Structural Contexts of Opportunities*. University of Chicago Press, Chicago, IL.
- Boudon, R. and F. Bourricaud (1982). *A Critical Dictionary of Sociology*. University of Chicago Press, Chicago, IL.
- Bresnahan, T. F. (1989). 'Empirical studies of industries with market power'. In R. Schmalensee and R. Willig (eds.), *Handbook of Industrial Organization*, Vol. 2. North-Holland, Amsterdam, Ch. 17, pp. 1011–1058.
- Bresser, R. and J. Harl (1986). 'Collective strategy: Vice or virtue', *Academy of Management Review*, **11**, pp. 408–427.
- Burt, R. S. (1987). 'Social contagion and innovation: Cohesion versus structural equivalence', *American Journal of Sociology*, **92**, pp. 1287–1335.
- Burt, R. S. (1992). *Structural Holes*. Harvard University Press, Cambridge, MA.
- Caves, R. E. and M. E. Porter (1977). 'From entry barriers to mobility barriers', *Quarterly Journal of Economics*, **91**, pp. 421–434.
- Coleman, J. (1990). *Foundations of Social Theory*. Harvard University Press, Cambridge, MA.
- Cool, K. and I. Dierickx (1993). 'Rivalry, strategic groups and firm profitability', *Strategic Management Journal*, **14**(1), pp. 47–59.
- Davis, S. J., J. C. Haltiwanger and S. Schuh (1996). *Job Creation and Destruction*. MIT Press, Cambridge, MA.
- Delacroix, J. and H. Rao (1994). 'Externalities and ecological theory: Unbinding density dependence'. In J. A. C. Baum and J. V. Singh (eds.), *Evolutionary Dynamics of Organizations*. Oxford University Press, New York, pp. 255–268.
- Dierickx, I. and K. Cool (1989). 'Asset stock accumulation and sustainability of competitive advantage', *Management Science*, **35**, pp. 1504–1511.
- DiMaggio, P. D. and W. W. Powell (1983). 'The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields', *American Sociological Review*, **48**, pp. 147–160.
- Dranove, D. and M. Shanley (1995). 'Cost reductions or reputation enhancement as motives for mergers: The logic of multihospital systems', *Strategic Management Journal*, **16**(1), pp. 55–74.
- Dutton, J. E. and J. M. Dukerich (1991). 'Keeping an eye on the mirror: The role of image and identity in organizational adaptation', *Academy of Management Journal*, **34**, pp. 517–554.
- Dutton, J., J. Dukerich and C. Harquail (1994). 'Organizational images and member identification', *Administrative Science Quarterly*, **39**, pp. 239–263.
- Edwards, D. (1991). 'Categories are for talking: On the cognitive and discursive bases of categorization', *Theory and Psychology*, **1**, pp. 515–542.
- Eisenhardt, K. (1989). 'Agency theory: An assessment and review', *Academy of Management Review*, **14**, pp. 57–74.
- Fiegenbaum, A., S. Hart and D. Schendel (1996). 'Strategic reference point theory', *Strategic Management Journal*, **17**(3), pp. 219–235.
- Fiol, C. M. and A. S. Huff (1992). 'Maps for managers: Where are we? Where do we go from here?' *Journal of Management Studies*, **29**, pp. 267–285.
- Fombrun, C. J. and E. J. Zajac (1987). 'Structural and perceptual influences on intraindustry stratification', *Academy of Management Journal*, **30**, pp. 33–50.
- Fukuyama, F. (1995). *Trust*. Free Press, New York.
- Fulk, J. (1993). 'Social construction of communications technology', *Academy of Management Journal*, **36**, pp. 921–950.
- Ghemawat, P. (1991). *Commitment: The Dynamic of Strategy*. Free Press, New York.
- Gripsrud, G. and K. Gronhaug (1985). 'Strategy and structure in grocery retailing: A sociometric approach', *Journal of Industrial Economics*, **33**, pp. 339–347.
- Gulati, R. and M. Gargiulo (1996). 'Where do networks come from?' Working Paper, Kellogg Graduate School of Management, Northwestern University, Evanston, IL.
- Hannan, M. T. and J. H. Freeman (1989). *Organizational Ecology*. Harvard University Press, Cambridge, MA.
- Harrison, B. (1994). *Lean and Mean*. Basic Books, New York.
- Hatten, K. J. and M. L. Hatten (1987). 'Strategic groups, asymmetrical mobility barriers and contestability', *Strategic Management Journal*, **8**(4), pp. 329–342.
- Huff, A. S. (1982). 'Industry influences on strategy reformulation', *Strategic Management Journal*, **3**(2), pp. 119–131.
- Ketchen, D., J. Thomas and C. Snow (1993). 'Organizational configurations and performance: A comparison of theoretical approaches', *Academy of Management Journal*, **36**, pp. 1278–1313.
- Kluger, R. (1996). *Ashes to Ashes*. Alfred A. Knopf, New York.
- Kreps, D. M. (1990). 'Corporate culture and economic theory'. In J. Alt and K. Shepsle (eds.), *Perspectives on positive Political Economy*. Cambridge University Press, Cambridge, UK, pp. 90–143.
- Krugman, P. (1991). *Geography and Trade*. MIT Press, Cambridge, MA.

- Krugman, P. (1994). 'Location and competition: Notes on economic geography'. In R. P. Rumelt, D. E. Schendel and D. J. Teece (eds.), *Fundamental Issues in Strategy*. Harvard Business School Press, Boston, MA, pp. 463–493.
- Lakoff, G. (1987). *Women, Fire, and Dangerous Things*. University of Chicago Press, Chicago, IL.
- Lant, T. K. and J. A. C. Baum (1995). 'Cognitive sources of socially constructed competitive groups: Examples from the Manhattan hotel industry'. In W. R. Scott and S. Christensen (eds.), *The Institutional Construction of Organizations: International and Longitudinal Studies*. Sage, Thousand Oaks, CA, pp. 15–38.
- Larson, J. and C. Christensen (1993). 'Groups as problem-solving units: Toward a new meaning of social cognition', *British Journal of Social Psychology*, **32**, pp. 5–30.
- Levinthal, D. and J. March (1993). 'The myopia of learning', *Strategic Management Journal*, Winter Special Issue, **14**, pp. 95–112.
- Marsden, P. V. and N. E. Friedkin (1993). 'Network studies of social influence', *Sociological Methods and Research*, **22**, pp. 127–151.
- McGee, J. and H. Thomas (1986). 'Strategic groups: Theory, research, and taxonomy', *Strategic Management Journal*, **7**(2), pp. 141–160.
- Miles, R. and K. Cameron (1982). *Coffin Nails and Corporate Strategies*. Prentice-Hall, Englewood Cliffs, NJ.
- Miner, A. S. and P. Haunschild (1995). 'Population level learning'. In L. L. Cummings and B. Staw (eds.), *Research in Organizational Behavior*, Vol. 17. JAI Press, Greenwich, CT, pp. 115–166.
- Mizruchi, M. (1992). *The Structure of Corporate Political Action: Interfirm Relations and Their Consequences*. Harvard University Press, Cambridge, MA.
- Nelson, R. E. (1989). 'The strength of strong ties: Social networks and intergroup conflict in organizations', *Academy of Management Journal*, **32**, pp. 377–401.
- Oliver, C. (1990). 'Determinants of interorganizational relationships: Integration and future directions', *Academy of Management Review*, **15**, pp. 241–265.
- Peteraf, M. A. (1993). 'Intra-industry structure and response toward rivals', *Journal of Managerial and Decision Economics*, **14**, pp. 519–528.
- Pettigrew, A. M. (1985). 'Examining change in the long term context of culture and politics'. In J. M. Pennings and Associates, *Organizational Strategy and Change*. Jossey-Bass, San Francisco, CA, pp. 269–318.
- Petzinger, T. (1995). *Hard Landing*. Times Books, New York.
- Pfeffer, J. and G. R. Salancik (1978). *The External Control of Organizations: A Resource Dependence Perspective*. Harper & Row, Boston, MA.
- Phillips, A. (1960). 'A theory of interfirm organization', *Quarterly Journal of Economics*, **74**, pp. 602–613.
- Podolny, J. (1993). 'A status-based model of market competition', *American Journal of Sociology*, **98**, pp. 829–872.
- Podolny, J. (1994). 'Market uncertainty and the social character of economic exchange', *Administrative Science Quarterly*, **39**, pp. 458–483.
- Porac, J. F. and H. Thomas (1990). 'Taxonomic mental models in competitor definition', *Academy of Management Review*, **15**, pp. 224–240.
- Porac, J., H. Thomas and B. Emme (1987). 'Understanding strategists' mental models of competition'. In G. N. Johnson (ed.), *Business Strategy and Retailing*, Wiley, New York, pp. 59–79.
- Porac, J., H. Thomas and C. Baden-Fuller (1989). 'Competitive groups as cognitive communities: The case of Scottish knitwear manufacturers', *Journal of Management Studies*, **26**, pp. 397–416.
- Porac, J., H. Thomas, F. Wilson, D. Paton and A. Kanfer (1995). 'Rivalry and the industry model of Scottish knitwear producers', *Administrative Science Quarterly*, **40**, pp. 203–227.
- Porter, M. (1979). 'The structure within industries and companies' performance', *Review of Economics and Statistics*, **61**, pp. 214–227.
- Powell, W. W. and P. Brantley (1992). 'Competitive cooperation in biotechnology: Learning through networks?' In N. Nohria and R. G. Eccles (eds.), *Networks and Organizations*. Harvard Business School Press, Boston, MA, pp. 366–394.
- Prahalad, C. K. and R. A. Bettis (1986). 'The dominant logic: A new linkage between diversity and performance', *Strategic Management Journal*, **7**(6), pp. 485–501.
- Reger, R. K. and A. S. Huff (1993). 'Strategic groups: A cognitive perspective', *Strategic Management Journal*, **14**(2), pp. 103–123.
- Ring, P. S. and A. H. Van de Ven (1992). 'Structuring cooperative relationships between organizations', *Strategic Management Journal*, **13**(7), pp. 483–498.
- Rosch, E. (1978). 'Principles of categorization'. In E. Rosch and B. B. Lloyd (eds.), *Cognition and Categorization*. Lawrence Erlbaum, Hillsdale, NJ, pp. 27–48.
- Saxenian, A. (1996). 'Beyond boundaries: Open labor markets and learning in Silicon Valley'. In M. B. Arthur and D. M. Rousseau (eds.), *The Boundaryless Career*. Oxford University Press, New York, pp. 23–39.
- Scherer, F. M. (1980). *Industrial Market Structure and Economic Performance* (2nd ed.). Rand McNally, Chicago, IL.
- Shanley, M. and M. Correa (1992). 'Agreement between top management teams and expectations for post-acquisition performance', *Strategic Management Journal*, **13**(4), pp. 245–266.
- Spender, J. C. (1989). *Industry Recipes: The Nature and Source of Managerial Judgement*. Basil Blackwell, Oxford, UK.
- Tajfel, H. and J. C. Turner (1985). 'The social identity theory of intergroup behavior'. In S. Worchel and W. G. Austin (eds.), *Psychology of Intergroup Relations* (2nd ed.). Nelson-Hall, Chicago, IL, pp. 7–24.
- Teece, D. (1994). 'Information sharing, innovation, and antitrust', *Antitrust Law Journal*, **62**, pp. 465–481.
- Teece, D., R. Rumelt, G. Dosi and S. Winter (1994). 'Understanding corporate coherence: Theory and evi-

- dence', *Journal of Economic Behavior and Organization*, **23**, pp. 1–30.
- Thomas, H. and N. Venkatraman (1988). 'Research on strategic groups: Progress and prognosis', *Journal of Management Studies*, **25**, pp. 537–555.
- Tirole, J. (1989). *The Theory of Industrial Organization*. MIT Press, Cambridge, MA.
- Trice, H. and J. Beyer (1993). *The Cultures of Work Organizations*. Prentice-Hall, Englewood Cliffs, NJ.
- Walsh, J. P. and G. R. Ungson (1991). 'Organizational memory', *Academy of Management Review*, **16**, pp. 57–91.
- Wood, R. and A. Bandura (1989). 'Social cognitive theory of organizational management', *Academy of Management Review*, **14**, pp. 361–384.
- Zajac, E. J. and M. H. Bazerman (1991). 'Blindspots in industry and competitor analysis: Implications of interfirm (mis)perceptions for strategic decisions', *Academy of Management Review*, **16**, pp. 37–56.