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A SOCIOLOGICAL VIEW ON WHY FIRMS DIFFER

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Much theory and research that apparently seeks to explain why firms differ actually addresses the question of why successful firms differ. This article explains why the two questions are different and explores some of the implications of this difference for the field of strategic management. A wide variety of organizational and economic theories are reviewed in this context, including contingency theory, resource dependence theory, process models, dispositional models, transaction cost economics, organizational ecology and institutional theory. Further discussion considers why heterogeneity persists at the firm level when it becomes apparent that only certain types of firms will succeed.

In modern economies, firms do differ. That fact is so obvious it rarely generates debate. But consensus about organizational heterogeneity pretty much starts and ends with that simple empirical observation. Questions concerning both the nature and sources of differences among firms engender a wide variety of often disparate answers.

The diversity of thought arising in this context reflects not so much disagreement among social scientists as complexity of the issue. From the perspective of individual firms, heterogeneity can crop up at any stage of the organizational life cycle and as the result of many possible forces internal or external to the firm. Within a population of established firms, evolutionary processes such as selection can act to winnow heterogeneity—or they can exacerbate it. The matter is complicated further by how close the competitive system is to its equilibrium because this state usually implies the elimination of diverse but relatively inefficient competitor firms. As all this serves to show, the seemingly straightforward query, Why do firms differ?, actually encompasses a broad range of other questions.

In order to make headway in identifying the sources of firm differences it is helpful to impose some structure on our thinking. Toward this end, I believe it is useful to distinguish between the sources of firm differences and questions about expected firm differences at equilibrium. By equilibrium, I mean temporal equilibrium of the competitive system within which organizations operate and compete. Because most analysts assume that the system functions in ways that favor efficient firms, this distinction is virtually equivalent to that between questions of why firms differ and why successful (that is, efficient) firms differ.[1] The answers to the two questions

[1] I shall use the term equilibrium throughout the article to refer to temporal equilibrium of the competitive system. Other conceptualizations of equilibrium may or may not yield different problems and conclusions. Also, in much of the discussion I shall presume efficiency is the equilibrium target because this is by far the most commonly accepted view in the strategy realm. Using other equilibrium criteria does not change the logic or implications of my arguments, although some readers may object to the use of the word 'success' in this context.

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are very different, and although such is often noted in passing, I do not believe that the implications of this distinction are well appreciated. Consequently, I shall attempt here to draw them out as I discuss pertinent theory and evidence.

WHY FIRMS DIFFER

If one examines a representative cross-sectional sample of firms from a modern economy, one finds a mixture of many types of firms including many that are inefficient in a technical sense and which will eventually fail.[2] Most theories of organization and virtually all normative theories of strategic management are constructed in ways that either ignore these inefficient firms or pretend as though they do not exist. Yet they are always there, in every modern society at every point in time. Usually they are present in large numbers and most of the time they probably constitute a sizeable majority. Without these firms there would be no need for normative theory since all existing firms would be doing the right things.

Any theory that purports to explain why firms differ can ill afford to ignore the largest proportion of those units to which it is alleged to apply. So at its most fundamental level, the question of why firms differ must ignore the question of success (or efficiency if the competitive system operates on that basis) and deal with what is out there—the complete heterogeneity of all firms *in existence*. Normative questions about why successful firms differ represent a second step, perhaps one more relevant to strategy, but nonetheless secondary.[3]

Scholars from a variety of social science disciplines have identified and documented sources of firm heterogeneity at the individual, organizational and environmental levels of analysis. Some of these are thought to be present from the time of founding, others are held to the result of processes experienced by on-going organizations. I review here briefly some of the relevant theories and studies, focusing my efforts on those with at least some minimal empirical support.

Individual sources—dispositional

The best known theories of entrepreneurship are not only psychological, they are also dispositional in that they attribute important stable characteristics to individuals. The notion of an entrepreneurial personality has long been linked to both particular types of individuals and to their organizations. The classic entrepreneurial firm is free from bureaucracy, lacks much role formalization, and operates via a highly centralized command structure emanating directly from the entrepreneur (see Mintzberg, 1979). While it is too strong to say that the entrepreneur is the organization, it is fair to say that this characterization depicts the organization as the social embodiment of his or her personality.

The systematic and careful empirical study by Miller and Dröge (1986) shows that dispositional explanations of organizational structure should not be quickly dismissed. Using a sample of 93 firms in Quebec, these investigators show that a CEO's score on the need for achievement scale (nAch) is strongly associated with organizational structure measures of formalization, centralization and integration. These effects persist even when organizational size, technology and environmental uncertainty are controlled. Furthermore, nAch shows its strongest effects in smaller and in relatively new organizations, suggesting that the initial sources of heterogeneity in firms reflect at least this personality characteristic of the founder.

Individual sources—situational

Much earlier research on entrepreneurship and self-employment is plagued by sample selection bias: samples consisting only of entrepreneurs were used in attempts to detect the causes of

[2] Caves and Barton (1990) review and present evidence regarding the prevalence of technical inefficiency, which does not seem rare.

[3] Considering the full range of firms in existence is not nearly so 'anormative' as it seems at first glance. Suppose that the supply of new firms could be turned off immediately. Even with intense efficiency-based selection pressures it would take several years for the inefficient enterprises to get weeded out. In the interim some of these firms might figure out how to become efficient. (And, conversely, some of the efficient ones might 'forget' how they do it or make some major mistake.) Furthermore, if environmental conditions change during this period, then the organizational arrangements that had earlier been efficient may no longer be so and vice versa. It does not take much imagination to devise a scenario where momentary inefficiency may be necessary for long-term survival.

entrepreneurship. Besides the usual problems of sample selection (see Heckman, 1979) these data are contaminated by the tendency of entrepreneurs to overestimate their chances of success and to overrationalize their initial motivations (Cooper, Dunkelberg, and Woo 1988). The result reenforces the classic portrait: an entrepreneur is an economically rational profit-seeking person who, because of a good idea or the intention to work harder, made the conscious decision to go into self-employment after weighing his or her other employment options.

Recent research using sounder methods and designs yields a different image. These studies use representative samples of all persons and attempt to predict prospectively who will become self-employed (for examples, see Fuchs, 1982; Borjas, 1986; Carroll and Mosakowski, 1987). Although it is difficult to find any consistently strong single determinant, the findings are consistent in uncovering situational factors that push individuals into self-employment, usually because their other options are diminished. For example, unemployment frequently shows a strong positive effect on becoming self-employed. So too do retirement and forced resignation. Other factors associated with self-employment, such as parental self-employment and marital status, may or may not involve such an explicit push. But they are situational in a sociological sense and together they strongly suggest that the 'decision to enter' is conditioned by social structure. Presumably, such social structures have a lot to do with the types of organizations that get founded by these persons but the evidence here is virtually nonexistent.

Organizational sources—spin-offs

Because a focal organization does not exist prior to the event of interest, theories of entrepreneurship have traditionally not considered organizational explanations (Delacroix and Carroll, 1983). However, the high visibility of so-called 'spin-offs' in areas such as Silicon Valley has increased awareness of the potential for existing firms to beget new firms. Sometimes this process may occur by the explicit design of 'incubator firms.' But often it is the result of structural features of existing organizations.

The rate at which firms spawn new firms varies tremendously. What might account for these differences? Brittain and Freeman (1986) focus on the likely political consequences of particular structural arrangements and events. They argue that when prized and highly knowledgeable employees perceive their internal career prospects as jeopardized, they will be prompted to start new firms. In the context of the semiconductor manufacturing industry of northern California, Brittain and Freeman (1986) specify that CEO succession from the outside, corporate takeover from a firm in another industry, and demographic bulges of older workers each operate in this way. In a unique empirical study of all firms in this industry from 1958 to 1982, they present evidence showing that firms characterized by these factors did indeed have higher rates of spin-off.

Organizational sources—internal change

Most strategic theory posits that firms differ because managers figure out ways to distinguish their firms from others. Usually this is assumed to be the result of a rational planning exercise or at least involves procedures that might be so codified. Sophisticated versions of such theory (e.g., Alchian, 1950; Nelson and Winter, 1982) specify an intendedly rational search and planning process but do not claim that an optimal or even effective outcome will emerge.

More generally, we can say that firm heterogeneity often comes about through the transformation of existing firms. Undoubtedly these changes are frequently enacted as the result of a rational planning process by managers. But not always—internal organizational change is often undirected and unintentional (March, 1978; 1982). Moreover, intended change also often carries with it unintended consequences.

Theories of organizational change abound and go straight to the heart of fundamental differences among the various major theoretical perspectives in organizational sociology (i.e., institutional theory, organizational ecology, resource dependence theory, transaction cost economics). Perhaps because organizational change is so closely tied to the cores of these paradigmatic-like constructions we know much less about it than we might. Most currently popular theories embrace a model of environmentally driven change whereby external changes produce organizational changes (more on this below). But we do not have a basic systematic accounting of the

rates of change by organizational form, nor the prevalence of different types of changes, let alone good general studies of the determinants of either.

Despite these serious problems of evidence, there seems to be some agreement about several of the characteristics of organizations thought to be associated with change. The distinction between change in the core features (e.g., mission, function, technology) and the peripheral features (e.g., products, location, subunits) is critical (Scott, 1987a; Hannan and Freeman, 1984). Changes in peripheral structure are, of course, more frequent. I also venture that organizational theorists would expect rates of peripheral change to be higher in new organizations, in less formalized organizations, and in those organizations operating in changing and uncertain environments. Changes in the more fundamental core structures would also be expected to be higher in more turbulent environments. It would also likely be greater in organizations with a 'soft' technological core, such as many service organizations.

Environmental sources

Most organizational theorists would ultimately trace the differences among firms to the diversity of environments or resources on which they depend (Hannan and Freeman, 1977; Scott, 1987a). Stated this way, there are two problems with such a general claim. First, it is essentially an equilibrium claim—the argument is about the types of firms favored by the environment and the maximum level of sustainable diversity, not the level possible in disequilibrium.

The second and more difficult problem with the argument is that it simply recasts the problem at a higher level of analysis: it does not tell us what are the important dimensions of environmental diversity. Indeed, the major debates within organizational theory are over exactly these differences. Some perspectives, such as organizational ecology, seem to argue mainly on behalf of material differences in resources and technology (Hannan and Freeman, 1989). Others, such as sociological institutional theory, see rules and normative constraints as defining separate environments (Meyer and Rowan, 1977). The structuralist view of White (1981; 1988) envisions consumer tastes and the dispersion in their valuation relative to costs as setting the range of possible resource bases. As currently stated by Williamson (1985; 1991), transaction cost economics views legal and political environments as dominant, although a more general rendering might view any factor (physical, technological, political, etc.) which creates significant transaction costs as differentiating the environment.

In exploring these issues in the current context, it is helpful to come down a level or two of abstraction and ask the rather simple question, What types of environmental changes shift the equilibrium criteria or 'target' of the system, thereby exacerbating disequilibrium and producing new types of organizations? That is, which environmental changes produce market or other disjunctures that some entrepreneurs will perceive as opportunities and thereby be prompted to found new organizations? Substantively oriented researchers, often working from many different theoretical perspectives at once, have given us a number of solid clues:

One broad class of important environmental changes involves *technological discontinuities*. Often arising from the isolated work of an individual genius, these major breakthroughs in technology typically substitute for and eventually supplant an existing technology (see Tushman and Anderson, 1986). The initial discovery is often called paradigmatic (or 'frame-breaking' or 'competence-destroying') because it renders obsolete previous ways of doing things. Subsequent technological progress proceeds incrementally down an uncertain but directed trajectory according to an accepted regime (Dosi, 1982). The organizational structures associated with the new technology differ from those associated with the old technology.

A good example of technological change affecting organizational change is found in the world watch industry. Until around 1950, mechanical watches using pin lever and jewel lever technologies dominated the industry. The firms producing these watches were overwhelmingly Swiss firms, relatively small operations consisting of highly trained craftsmen who were not involved in the distribution of their products. Between 1950 and 1970 new types of watches using electric and tuning fork technologies appeared. These watches were produced primarily by large American firms that often had their own distribution and retail networks. The biggest technological

change occurred in the 1970s, however, with the introduction of quartz watch technology, resulting in numerous electronic watches. This technology virtually eliminated the old Swiss watchmaking companies whose products suddenly seemed less reliable and much more expensive. The quartz technology regime in the world watch industry is dominated by large vertically integrated Japanese firms such as Hattori Seiko. Hong Kong also maintains a strong presence in this industry.

Another type of broad environmental change with pervasive organizational implications involves *political discontinuities in government*. National revolutions, in particular, often espouse ideologies—for example, egalitarianism, communism, democracy—that prescribe new or different types of organizational forms (see Stinchcombe, 1965; Aldrich, 1979; Carrol, Delacroix, and Goodstein, 1988). A similar but far less profound process often occurs with regime change. Once in power, new governments frequently provide the authority and funds to proliferate their preferred organizational forms. Likewise, taxes, laws and other incentive mechanisms may be changed with this end in mind.

The establishment of state socialist governments has historically produced some of the most dramatic changes in the organizational panorama. The East German case illustrates this well. Between 1971 and 1987 the state directed its nationalization efforts towards the abundant Mittelstand (small companies). The result was a decrease in the numbers of small companies: while in 1971 over 8000 firms with fewer than 100 employees operated, by 1987 there were fewer than 1000. Average firm size increased dramatically, as it often does under state socialism (even when the guiding ideology favors small producers—see Colburn (1986) for a similar account in Nicaragua between 1979 and 1983). There seems little doubt that after the reunification of East Germany a rapid reversal of this process is underway.

Finally, we know that *changes in the distributions of ethnic groups* constitute important environmental changes. Most of the time these changes occur as the result of large-scale immigration of minority groups into advanced economies but they can also involve the activation of new or latent identities (e.g., the black power movement). In any case, both blocked upward mobility channels (due to discrimination against the minority) and ethnic solidarity by ethnic consumers (reenforced by geographic settlement patterns and caused in part by discrimination) create new ethnic-based forms of organization often situated in ethnic enclaves and providing numerous alternative sources of opportunity (Evans, 1989; Olzak and West, 1991).

An obvious example of how organizational change follows from ethnic change can be found in the history of the U.S. newspaper industry. Waves of ethnic papers were generated by waves of immigration (see Park, 1922). The peak of the ethnic press occurred during World War I when many German papers went out of business. Evidence of a less obvious link of this kind comes from Russell and Hanneman's (1991) study of cooperative organizations in Israel. They show a strong association between immigration and cooperative founding rates and mortality rates.

These and similar types of changes are sometimes embedded in the logic of general models of industrial evolution. For instance, the well known technology model of Utterback and Abernathy (1975) posits that as product market sectors unfold over time, the associated technological advances and economic changes made induce different types of entrepreneurs and organizations. Early on, product innovators are attracted; later, it is process innovators. A similar although more general statement of this kind can be found in Porter's (1980) discussion of industry evolution. Although both models contain some equilibrium (success) logic, they also each realistically depict profit-seeking entrepreneurs responding to changing industry structure.

Organizational blueprints

Some of the theories and research that bear on firm differences make no specific predictions about what sort of difference is expected (e.g., the study of spin-offs among semiconductor producers). Others seem to imply some specific difference but making it explicit usually requires invoking an assumption or two (e.g., the structure of ethnic-based firms). Yet others seem to make specific predictions about firm differences (e.g., centralization in decision making varies with nAch of CEO). Even when combined, however, these predictions are unable to account for the actual complexity of new firms. So a more

general basic question underlies the one about firm differences, namely, Where do specific organizational blueprints come from? It makes most sense to address the question for the initial structure put in place during the establishment period.

At one extreme we can imagine the all-knowing industrious rational entrepreneur. He plans every detail of his new firm and manages to implement his design as intended except, of course, for some fine-tuning in midstream (perhaps to take care of unexpected developments). At the other extreme we have the imitative entrepreneur who borrows an organizational design from a successful firm or perhaps buys one from a franchise vendor complete with an instruction kit and an occasionally visiting quality control monitor, who might also provide technical assistance.

Another possibility is that the entrepreneur's organizational blueprint is less conscious or controllable. The initial design for the organization may embody the culturally defined building blocks that the entrepreneur takes for granted and enacts. Or, the design may merely set the initial conditions for an emergent social process that determines the eventual persisting organizational structure.

Unfortunately, we know very little about how the entrepreneur develops this organizational blueprint (Spender, 1989). Stinchcombe's (1965) famous analysis of organizational forms shows that the general characteristics of the blueprint are history dependent (see Kimberly, 1975, for a more fine-grained illustration of this process). Boeker's (1988) study shows that the founder's prior work experience often gets reflected in the initial structure and strategy. And it is hard to imagine any entrepreneur planning and thinking through every detail, especially with the time pressures usually involved. Entrepreneurs, then, are likely to be consciously rational in only very limited ways in designing their organizations. The domain of the rationality is likely set by their prior educational and work experience and, perhaps, by the constraints imposed by involved outsiders such as investors. A few features of an entrepreneur's organization likely represent attempts to solve the problems that he considers salient based on this experience. But the list of such features is probably not very long and surely does not cover many aspects of a firm. Most features adopted are likely copied or put into place without any thought, perhaps coming from observation, reading or consultation. The result is a semi-planned venture where the planned elements represent the entrepreneur's priorities for perceived success of the firm.

WHY SUCCESSFUL FIRMS DIFFER

Claiming that disequilibrium is common does not imply that the world is not driven by a process that would reach equilibrium if left unperturbed. The relevant question at any point in time concerns the *general* criteria driving the process producing success in disequilibrium and ensuring existence at equilibrium. (Random and idiosyncratic factors may, of course, be very important in accounting for the success of specific firms but need not concern us here.) For the issue of firm heterogeneity, the extent to which individual organizational change is adaptive or selective in moving the system towards equilbrium is an important but secondary question.

Most theories of strategic management and organization hold (sometimes implicitly) that the dominating equilibrium criterion is efficiency although definitions of this concept vary (again often implicitly). These theories also differ markedly in, first, their specifications of the factors upon which efficiency depends and in, secondly, their assessments of the relative efficiency of various organizational configurations. Each element in turn contains a theory's answer to the question of firm differences at equilibrium. Consider the wide range of theories about strategic success and their implications for organizational heterogeneity at equilibrium:

Porter's economic model

According to Porter (1980), organizational efficiency is indicated by profitability in the short term and survival in the long term. Porter's influential normative theory of strategy implies that a firm's market positioning is the key factor in determining success. As is well known, the major thesis is that in the long run only three generic market positions are viable: (1) low cost production, (2) product differentiation, and (3) segmented focus. Although different indus-

tries may be especially favorable for one or the other at any point in time, the equilibrium apparently holds room for all three types simultaneously.

Contingency theory

Found in every textbook on organizational design, the so-called contingency theory of organizations specifies that size, technology and environment are the relevant conditional factors determining efficient organizational structure. Although many variants of this theory exist (see Scott, 1987a, for a review), the logic of most remains faithful to the seminal contributions of Woodward (1965), Blau (1970) and Lawrence and Lorsch (1967). More specifically, for technology, Woodward (1965) argued that there are three basic types of technological systems (unit and small batch, large batch, and process), each requiring a different organizational configuration for effective functioning. Blau (1970) rigorously defined the relationship between efficient administrative overhead and organizational size. Lawrence and Lorsch (1967) showed that organizational subunits adapt separately to their specific environments, thus leading to the overall design statement that organizations facing heterogenous environments require greater structural differentiation and integrative effort to be successful.

Resource dependence models

Theories of resource dependence emphasize the ways in which organizations reduce or overcome environmental uncertainty. Thus, the equilibrium criterion is uncertainty reduction (Pfeffer, 1982). Depending on the form and level of uncertainty, a hierarchically ordered set of appropriate organizational responses are posited as enhancing the chances of success (Thompson, 1967). These include both internal organizational 'buffering' strategies (e.g., coding, stockpiling, differentiation) and external interorganizational 'bridging' strategies (e.g., cooptation, alliance, joint venture, merger). Some versions of resource dependence theory look at structural environmental constraints and strategies for overcoming them more generally (see Burt, 1983; Pfeffer, 1987). Firm differences expected at equilibrium by resource dependence theory thus reflect both the variety of structural constraints and the number of effective organizational responses for reducing uncertainty.

Process models

Another common line of thought about successful strategy harkens back to classical management theory. This view emphasizes the importance of internal organization and process. Early versions of process-oriented strategy theory stressed the role of cooperation (Barnard, 1938). A radical process model of firm success is given by Weick (1987) who argues that what is important is not the content of a firm's strategy but its existence in the first place and the form of its enactment in the second. In other words, firm success is primarily the result of differences in process (including possibly formulation, articulation, and implementation) rather than differences in content. Less extreme models of this kind are conditional on the type of externally oriented competitive posture the firm has adopted. For instance, Miles and Snow (1978) emphasize consistency between strategy and organizational structure as the key to success. More recently, Hambrick (1987) trumpets the role and composition of top management teams. O'Reilly (1989) advances logically similar arguments about the role of organizational culture.

Dispositional models

A different but overlapping tradition of management theory focuses on the CEO and his personal characteristics. Many theories of this kind maintain that leadership on the part of the CEO is the single most important criterion determining success. Such ideas are likely in part responsible for the fascination of organizational behavior researchers with executive succession processes. More complex versions of dispositional theory make conditional arguments about the executive's leadership style or personality and the firm's market strategy or technological base. The best known of these is McClelland's (1961) theory of entrepreneurship wherein he argues that an achievement motive (or need) will dominate in entrepreneurial settings. Miner, Smith, and Bracker (1989) have developed a similar but more elaborate role motivation theory that specifies five different leadership roles. Yet another type of CEO-based model focuses on

entrepreneurial human capital (see Preisendoerfer and Voss, 1990).

Transaction-cost economics

Many theories of firm success are derivable from the more abstract transaction cost perspective of Williamson (1985). In its most general formulation, transaction cost theory holds that activities will be organized optimally when they minimize the production costs and economize the transaction costs involved in producing the desired outcome. In other words, the equilibrium criterion of this theory is efficiency as indicated by cost minimization. The factors associated with transaction costs (and thus determining the optimal level and shape of formal organization) include asset specificity, uncertainty and frequency of transaction. Sometimes this general theory leads to specific predictions about when a particular activity, say production of a component, will be done in-house or purchased in the market (Monteverde and Teece, 1982). Recent efforts by Williamson (1991) and by Teece (1989) specify in much greater detail the range of specific factors affecting transaction costs and the myriad hybrid organizational forms associated with varying levels of cost.

Organizational ecology

Another general theory is that of organizational ecology. This perspective uses organizational survival itself as the outcome variable of primary interest but accepts a very broad range of equilibrium criteria. Some models of organizational ecology, such as Freeman and Hannan's (1982) fitness set theory of specialism and generalism or Carroll's (1985) model of resource-partitioning clearly have efficiency interpretations. In these models, environmental and market conditions set the stage for some organizational forms to outperform others (usually by virtue of market compatibility rather than by internal efficiency). Other ecological models depend in their reasoning on noneconomic or non-efficiency based equilibrium criteria. For instance, Singh, Tucker and House (1986a) argue that institutional legitimacy is an important success factor for voluntary social service organizations. They measure legitimacy by looking at whether the organization is listed in the charitable registry and endorsed by the local chamber of commerce. They find that such endorsement by institutional authorities lowers the organizational death rate. A more general model of institutionally driven organizational evolution is embodied in Hannan's (1986) powerful theory of density-dependent legitimation and competition (see Hannan and Carroll, 1992). Other ecological analyses of this kind focus on political environments and related turmoil (see Carroll *et al.*, 1988).

Institutional theory

Sociological institutional theory also differs markedly from the efficiency-based models. This view holds that although the pretense of rationality and efficiency is usually maintained, the actual equilibrium criterion is normative (Meyer and Rowan, 1977). That is, institutional theory posits that normatively defined models of formal organization drive the system. These models are socially constructed definitions of appropriate ways to organize that usually rationalize the model on efficiency grounds. For any specific organizational population or industry sector, the state and other professional bodies endorse and sanction morally the diffusion of particular models or blueprints for organizing. Research conducted within this perspective identifies these models, describes the processes by which they emerge and documents their diffusion through sectors of the economy (see Rowan, 1982). The most fascinating studies of this kind examine organizational contexts where normative rationality does not coincide with technical rationality or efficiency (e.g., Meyer and Scott, 1983).

The state

What other equilibrium criteria drive organizational evolution? Analyses of nonmarket contexts such as state socialism help in identifying these phenomena (see, for example, Kornai, 1986). These studies show a somewhat different normative process from that depicted by institutional theory.[4] Whereas in institutional theory the

[4] In some renditions, these arguments are considered part of sociological institutional theory (see Scott, 1987b). Note also that at some point arguments of this kind become indistinguishable from resource dependence theory.

impression is often given that models of organizing are adopted without cognition or even awareness on the part of the participants (sort of a cultural enactment process), under state socialism conformity to an externally defined model of organizing is consciously undertaken. Indeed, the whole process is much more direct and explicit in that authorities specify and sanction what is wanted while organizations below attempt to at least give the appearance of conformity. The equilibrium critieria also typically have a heavy ideological flavor in these types of processes.[5] These studies often show that the success and survival of individual firms rests more with their interorganizational relations than with internal efficiency. Knowing state officials, building relationships with them and bargaining the firm's status all work to the advantage of the firm under state socialism (see Carroll, Goodstein, and Geynes, 1990). To a lesser degree, the same processes can be seen in capitalist economies, of course. While resource dependence theorists might claim that there is little distinctive about these phenomena, they do seem to have greater salience in these contexts, sometimes growing to absurd dimensions and frequently having little to do with technical efficiency. The state is also endowed with unique authority that makes it different from other external organizations controlling resources.

Adaptation vs. selection

Most of the theories of why successful firms differ embrace (or at least imply) an adaptation model of organizational change. Although the difference between an adaptation and a selection model may not matter in terms of which types of organizations are expected at equilibrium (provided the two processes are driven by the same criteria), it does matter greatly for a theory of strategic management. The point is not that selection-based theories such as organizational ecology are irrelevant, as some strategists would hold, or that adaptation-based theories are unrealistic, as some organizational theorists hold. Rather strategic management is inherently concerned with both—and theoretical analyses conducted within this field should reflect that fact. Strategy theory should be concerned with not only the likely success of particular actions once implemented but also with the risks entailed by undertaking such actions in the first place. In other words, what are the risks of adaptation? How do they differ by type of action and by organizational context?

Since organizational ecology challenges the adaptation model most directly, researchers working within this perspective have begun studying such questions. While still very early, the results to date seem generally consistent with the conjecture of Hannan and Freeman (1984) that 'core' organizational features (i.e., mission, technology, resource base) generate greater risks when changed.[6] For instance, the study by Singh, Tucker, and House (1986b) of mortality among voluntary social service organizations in Toronto shows that changes in goals, service area and organizational structure (each of which is argued to be a core feature of this type of organization) all increase the death rate while changes in chief executive and location (peripheral features) lower it. In an empirical study of semiconductor manufacturers, Freeman and Hannan (1990) demonstrate that the reorganization accompanying product changes in this industry have a strong initially positive effect on the exit rate, even though such changes enhance long-term survival. Studies currently in progress by Amburgey, Kelley, and Barnett (1990) of newspapers in Finland and by Haveman (1990) of the California savings and loan industry show consistent preliminary findings. So it looks as though major adaptations involve great survival risks, even if the intended change would increase survival probabilities if successfully effected.

Organizational theorists often assume that selection processes operate only on individual firms or organizations. Thus the observation that organizations are embedded in a network of organizations, some of which they have great control over, is taken as evidence of the absence (or implausibility) of selection (Perrow 1986). It is not—frequently the fates of firms are tightly interconnected with those of other firms (Porter, 1980; White, 1981). In the context of early American telephone companies, Barnett and

[5] Carroll *et al.* (1988) provide some examples.

[6] It is interesting to note that Teece, Pisano, and Shuen (1990) claim to derive a similar argument from the so-called resource-based approach to strategy.

Carroll (1987) show that such interdependencies can be determined empirically. Other studies of higher order selection processes rely on known differences in technology (Barnett, 1990a) or strategic groups (Carroll and Swaminathan, 1992; Barnett, 1990b). In general, selection processes might operate on firms, groups of firms (by, say, technological type or strategy), populations of firms, or communities of populations of firms.

One plausible interpretation of systems apparently driven by equilibrium criteria other than efficiency (by, say, political conformity in a statist system or by cooptive ability in a capitalist system) is that they create interdependencies between organizations that simply force efficiency driven selection processes to operate on higher order groupings of organizations (Hannan and Freeman, 1977). This view implies that although selection is always efficiency based, the best strategy for any given individual firm may be to act otherwise (e.g., build interorganizational bridges with the state rather than economize internal operations). Moreover, it appears as though when many individual firms manage to get their fates tied to those of many other organizations, especially governmental organizations, the disequilibrium can be maintained for a long period (witness the long survival of East European state socialism). So, for instance, firms under state socialism manage to survive and even prosper by creating resource dependencies with the state. However, by this interpretation the entire system eventually experiences the selection pressures of efficiency and, if changes are not made, it collapses. Presumably, resource dependencies in market contexts can have similar effects, no matter how wise they may be as courses of action for the managers of individual firms. This suggests that analysis of interorganizational relations and alliances needs to be conducted from other than just the focal organization perspective commonly used in strategic management.[7]

In abstract, the appropriate level of analysis for studying firm success is determined by the strength of interdependencies among firms relative to the strength of selection processes. While there is apparently great variation in this level when firm survival is the outcome variable, the evidence for profitability favors the business unit level. In the most thorough study to date (to my knowledge), Rumelt (1991) shows that approximately 45 percent of firm profitability is accounted for by differences in business units (meaning firm-specific differences in organizational form and environment for a particular line of business). This important finding suggests that selection may apply with greatest force to business units rather than to larger divisional or corporate units, as some strategy theories imply.

ON THE PERSISTENCE OF HETEROGENEITY

As characterized by the above theories, organizational evolution usually proceeds down a systematic path, no matter how much noise and disequilibrium the system contains. At some point the evolutionary process likely becomes calculable in that successful firms are readily recognizable and managers can formulate pretty good guesses as to what equilibrium criterion is being favored and the organizational factors that might produce it. This situation raises the crucial question of why firms pursuing unsuccessful strategies do not change to more successful strategies, including possibly imitating the winners. Another way of stating this question is in terms of firm heterogeneity: why do firm differences persist once strategic and organizational recipes for success become known?

The first point to recognize is that heterogeneity does not always persist. In some industries, imitation is relatively easy and firms simply follow the leaders. In others, selection processes are so severe and rapid that unsuccessful firms are eliminated before their managers can figure out what is going on. This appears to be the case especially in industries driven by strong economies of scale, such as beer brewing, where thousands of firms have gone under in a relatively short period, reducing heterogeneity enormously.

In many instances, however, firm heterogeneity persists for long periods. For the current issue, the least interesting case is when this heterogeneity is simply the result of multiple organizational forms being the equilibrium targets of evolution, as

[7] Please note, however, that some analyses of interorganizational groupings and alliances actually make arguments about the efficiency of the entire interdependent group (e.g., Gerlach, 1987). Here the logic used above obviously does not apply.

with Porter's three generic strategies. The more interesting situation involves the persistence of heterogeneity that falls outside the equilibrium range. The precondition for such a situation, of course, is a selection environment loose enough to allow such firms to operate for nontrivial periods of time. If we then ask why such firms do not switch to more successful strategies,[8] a variety of answers seems plausible in one context or another:

1. Environmental expectations. Although management may recognize that their firm's strategy is currently unsuccessful, they may believe that the environment will soon shift to a condition more favorable to their position. That is, staying the course may be the intention despite hard times at the moment.
2. Ambiguity excellence. Industry leaders may be easily recognizable and the general features of their activities known but there may still be ambiguity regarding exactly which features generate success. This situation is especially common when the leaders themselves exhibit differences, thus introducing many factors that might plausibly account for success. The plethora of books and articles about Japanese management suggests this kind of ambiguity surrounds the success of Japanese firms.
3. Imitation inability. Despite a known recipe for success and a decision to pursue it, firms may be unable to implement the strategy. This problem is especially common when large firms attempt to pursue specialist strategies. Despite having all the apparently necessary technical and other resources, imitation is often an impossible feat.
4. Structural constraints. As detailed by Hannan and Freeman (1977; 1989) a variety of political, social and economic forces act to constrain change and to keep inertia strong. Organizational culture is also highly inertial, even in the midst of great demographic change (Harrison and Carroll, 1991).
5. Precariousness of change. The transition period surrounding a major strategic change is fraught with inherent difficulties and risks independent of the content of the change. Rational managers may decide to forego such risks even if undertaking them may enhance the prospects of success.

[8] That many such firms do not successfully adapt is obvious given the extremely large number of organizational failures seen continuously in modern economies.

CONCLUSION

Organizational heterogeneity is a very complex issue involving questions of where variation comes from, how it is winnowed by selection and other evolutionary processes and why it persists in firms performing poorly. Although research conducted on any of these questions might benefit the strategy field, the evolutionary process is, I contend, the most germane for strategic management because strategy researchers have been interested primarily in firm performance. So rather than ask why firms differ, I suggest that the fundamental question for strategic management is why successful firms differ.

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