© Academy of Management Review
1994, Vol. 19, No. 4, 645–670.

FOOLS RUSH IN? THE INSTITUTIONAL CONTEXT OF INDUSTRY CREATION

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New organizations are always vulnerable to the liabilities of newness, but such pressures are especially severe when an industry is in its formative years. We focus on one set of constraints facing entrepreneurs in emerging industries—their relative lack of cognitive and sociopolitical legitimacy. We examine the strategies that founders can pursue, suggesting how their successful pursuit of legitimacy may evolve from innovative ventures to broader contexts, collectively reshaping industry and institutional environments.

Founding a new venture is risky business under any conditions, but especially so when entrepreneurs have few precedents for the kinds of activities they want to found. Early ventures in the formative years of a new industry face a different set of challenges than those that simply carry on a tradition pioneered by thousands of predecessors in the same industry. Such foundings are risky, but are they also foolish? From an institutional and ecological perspective, founders of new ventures appear to be fools, for they are navigating, at best, in an institutional vacuum of indifferent munificence and, at worst, in a hostile environment impervious to individual action. In addition to the normal pressures facing any new organizations, they also must carve out a new market, raise capital from skeptical sources, recruit untrained employees, and cope with other difficulties stemming from their nascent status.

Among the many problems facing innovating entrepreneurs, their relative lack of legitimacy is especially critical, as both entrepreneurs and crucial stakeholders may not fully understand the nature of the new ventures, and their conformity to established institutional rules may still be in question. We capture these problems by using the term *legitimacy* in two related senses: (a) how taken for granted a new form is and (b) the

Critical comments and ideas came from all quarters, including Joel Baum, Jack Brittain, Neil Churchill, Moshe Farjoun, William Gartner, Heather Haveman, Christabel LaMotte, Ingrid Rasch, Elaine Romanelli, Jitendra Singh, Andrew H. Van de Ven, and David Whetten. Deborah Tilley shaped this manuscript into its final form.

extent to which a new form conforms to recognized principles or accepted rules and standards. The first form of legitimacy is labeled *cognitive*, and the second, *sociopolitical*.

In this article, we examine the social processes surrounding the emergence of new industries, from the early pioneering ventures through the early stages of growth, when the form proliferates as the industry becomes established. Legitimacy is not the only factor influencing whether an industry successfully moves beyond the stage of a few pioneers to fully realized growth. Clearly, many other factors are important to a new industry's success, such as the state of the economy, latent demand for the product or service, competitive pressures from related industries, and the skills of new venture owners and workers. Because only a few theorists have examined failed industries (e.g., Astley, 1985), and we have no systematic research in this area, our article is necessarily speculative. However, we believe that legitimacy is a more important issue than previously recognized, and so we focus our arguments and propositions on factors affecting an industry's legitimacy and on legitimating strategies pursued by innovating entrepreneurs.

Our aim is to identify factors hindering and supporting the progression from the founding of a completely new activity, in an institutional void, through its development as a legitimate industry. Our focus is on the development of independent new ventures that are not sheltered by sponsoring organizations. By definition, such ventures cannot rely on existing institutions to provide external legitimacy. Throughout the article, we refer to *new activities* as specific product/process innovations, one aspect of what ecologists refer to generally as new organizational forms; *new ventures* are independent organizations initiating the new activity; and *industries* are groups of organizations with similar products/processes.

Background

This paper extends current theories linking organizational legitimacy and industry creation. Ecological theorists have provided empirical evidence of lower founding and higher disbanding rates when industries are small (Hannan & Freeman, 1989). Borrowing from institutional theory (Meyer & Rowan, 1977; Scott & Meyer, 1983), they have argued that this pattern exists because firms initially lack external legitimacy due to their small numbers. Their strongest arguments have been based on findings from organizational populations with chronic problems of sociopolitical opposition and repression (e.g., labor unions and newspapers) (Delacroix & Rao, 1993). In the 1990s, they have begun to address legitimacy issues stemming from a lack of knowledge and understanding (Hannan & Carroll, 1992).

Theorists using economic models have challenged ecologists' legitimacy arguments, asserting that industry entry and exit patterns are the result of competition and industry consolidation (Delacroix, Swaminathan, & Solt, 1989). The focus of economic theories of industry creation

has been on the risks and economic trade-offs that characterize new industry entry decisions (Klepper & Graddy, 1990; Winter, 1984), and they have given little weight to the social context within which those decisions are embedded. Klepper and Graddy's study, however, provided findings that strongly suggest the influence of other than purely economic-technical considerations in the growth of an industry. They found that some industries went from origin to stability (defined as the year when the number of firms reached a peak and remained more or less the same for a few years) in only two years, whereas others took more than 50 years. The average was 29 years, and the standard deviation was 15, indicating that there is an enormous range of variation in the time required for industries to become established. Some fraction of this time reflects the early founders' struggles in developing cognitive and sociopolitical legitimacy.

We begin by defining and describing the two forms of legitimacy. We note that there are many constraints facing innovating entrepreneurs. Framing the problem in this way portrays founders as confronting a seemingly insuperable obstacle course in their struggle for legitimation. We then reframe the problem, using an institutional framework to specify a set of conditions that calls for particular strategies on the part of founding entrepreneurs. Reframing the issue in this way highlights founders' opportunities for overcoming existing legitimacy barriers and establishing a new set of norms, paving the way for an emerging industry to grow. We emphasize the cumulative way in which entrepreneurial activity plays a role in reshaping the larger environmental context by beginning with the individual venture and working our way up the hierarchy.

Entrepreneurs and Legitimacy Constraints

New industries emerge when entrepreneurs succeed in mobilizing resources in response to perceived opportunities. Identifying opportunities, assembling resources, and recruiting and training employees are challenges facing all entrepreneurs, and all of these activities require the cooperation and strategic interaction of individuals and groups. However, founders of entirely new activities, by definition, lack the familiarity and credibility that constitute the fundamental basis of interaction. Many of the other constraints on a new industry's growth are thus magnified. Access to capital, markets, and governmental protection are all partially dependent on the level of legitimacy achieved by an emerging industry.

In the original formulation of the argument linking industries and legitimacy, Hannan (1986) identified increasing numbers of organizations as the primary force raising the legitimacy of a population. The empirical puzzle that Hannan grappled with is a pattern, in a population's growth, of low founding rates and high disbanding rates in its early years, followed by a gradual increase in founding rates and a decrease in disbanding rates. What contextual factors discourage potential founders and undermine the survival of many organizations that are founded?

Subsequent answers to this question have become more theoretically subtle and historically sophisticated (Hannan & Carroll, 1992; Ranger-Moore, Banaszak-Holl, & Hannan, 1991), but they still follow Hannan's early identification of industry size—net of other conditions—as a crucial condition.

When the number of organizations in a new industry is small, new organizations are thought to have a lower chance of survival because they must learn new roles without having role models, and they must establish ties with an environment that does not understand or acknowledge their existence (Hannan & Carroll, 1992; Stinchcombe, 1965). As an industry grows, increasing numbers of organizations raise its legitimacy along two dimensions: cognitive, or knowledge about the new activity and what is needed to succeed in an industry, and sociopolitical, or the value placed on an activity by cultural norms and political authorities (Ranger-Moore et al., 1991).

Cognitive legitimation refers to the spread of knowledge about a new venture. Hannan and Freeman (1986: 63) noted that when an activity becomes so familiar and well known that it is taken for granted, time and other organizing resources are conserved, "attempts at creating copies of legitimated forms are common, and the success rate of such attempts is high." One can assess cognitive legitimation by measuring the level of public knowledge about a new activity. The highest form of cognitive legitimation is achieved when a new product, process, or service is taken for granted. An example is the diffusion of knowledge about personal computers—how to use them and how to manufacture them—in the 1970s and 1980s that facilitated the spread of PC use in homes and schools and that helped spawn many start-ups. From a producer's point of view, cognitive legitimation means that new entrants to an industry are likely to copy an existing organizational form, rather than experiment with a new one. From a consumer's point of view, cognitive legitimation means that people are knowledgeable users of the product or service.

Sociopolitical legitimation refers to the process by which key stakeholders, the general public, key opinion leaders, or government officials accept a venture as appropriate and right, given existing norms and laws. One can measure sociopolitical legitimation by assessing public acceptance of an industry, government subsidies to the industry, or the public prestige of its leaders. An often-cited example is the passage of the Wagner Act in 1935, which gave special status under federal law to unions following the form specified in the Act (Hannan & Freeman, 1986). For U.S. unions, government approval was a symbol of a long struggle for legitimacy, waged first by craft and then industrial unions.

Studies of organizational legitimacy have focused primarily on the impact of controversial activities on a firm's ability to acquire and maintain sociopolitical approval (Elsbach & Sutton, 1993; Hannan & Carroll, 1992; Meyer & Rowan, 1977). However, this aspect of legitimacy may not be the most relevant to the legitimacy issues facing founders of entirely

new activities. As Delacroix and colleagues (1989: 247) noted, there is a "diffuse belief that profit-seeking activities are valid, unless otherwise specified." Though it may be legally validated in the form of a legal charter, an entirely new activity begins, by definition, with low cognitive legitimacy. Without widespread knowledge and understanding of their activity, entrepreneurs may have difficulty maintaining the support of key constituencies.

SOCIAL CONTEXT AS OPPORTUNITY

Social contexts present entrepreneurs with many constraints, yet they also set the conditions that create windows of opportunity. Through processes of social construction, entrepreneurs can develop new meanings that may eventually alter institutional norms. Our arguments follow institutional constructionists, who emphasize how people in organizations act to produce and reproduce their environments (DiMaggio & Powell, 1983; Zucker, 1986). Social contexts, from this perspective, represent not only patterns of established meaning, but also sites within which renegotiations of meaning take place. Founding entrepreneurs of innovative ventures—the first stage in creating new industries—are initiators in this process of renegotiation. Table 1 proposes four levels of social context as progressively broadened sites within which founding entrepreneurs build trust, reliability, reputation, and, finally, institutional legitimacy.

We focus first on dynamics at the organizational level, and then we suggest how the progressive building of trust and reliability may work its way up the hierarchy, collectively reshaping industry and institutional

TABLE 1
Entrepreneurial Strategies to Promote New Industry Development

Level of Analysis	Type of Legitimacy	
	Cognitive	Sociopolitical
Organizational	Develop knowledge base via symbolic language and behaviors	Develop trust in the new activity by maintaining internally consistent stories
Intraindustry	Develop knowledge base by encouraging convergence around a dominant design	Develop perceptions of reliability by mobilizing to take collective action
Interindustry	Develop knowledge base by promoting activity through third-party actors	Develop reputation of a new activity as a reality by negotiating and compromising with other industries
Institutional	Develop knowledge base by creating linkages with established educational curricula	Develop legitimacy by organizing collective marketing and lobbying efforts

environments. A series of propositions summarizes our discussion of possible strategies for gaining legitimacy at each level of the hierarchy.

Entrepreneurs and Trust-Building Opportunities

What is trust? Early definitions refer to "assured reliance on the character, ability, strength, or truth of someone or something" (*Webster's New Collegiate Dictionary,* 1981: 1246). Later variants stress that trust is a belief, in the absence of any evidence, that things will "work out" (Gambetta, 1988; Gartner & Low, 1990). The role of trust is central to all social transactions (ranging from marriage to international affairs) where there is ignorance or uncertainty about actions and outcomes. Despite its pervasiveness, it is most often taken for granted as a background condition or "a sort of ever-ready lubricant that permits voluntary participation in production and exchange" (Dasgupta, 1988: 49).

Trust, reliability, and reputation are methods of attaining cooperation based on increasing familiarity and evidence (Bateson, 1988). Thus, the less information or evidence we have, the more we need to trust. As information accumulates and evidence mounts, we can increasingly rely on patterns of reliability and reputation. Trust is a critical first-level determinant of the success of founding entrepreneurs because, by definition, there is an absence of information and evidence regarding their new activity. Gartner and Low (1990: 18) argued that the concept of trust "provides a link between factors influencing organization formation at the individual level to factors influencing formation at the organizational and environmental levels." Specifically, they believed that the social process of gaining legitimacy is shaped by the interpersonal processes of achieving trust in the organizing process.

Entrepreneurs in a new industry face rather different conditions than those operating in the relative security of simply reproducing old activities. With their industry having achieved cognitive and sociopolitical legitimacy, most entrepreneurs in recognized industries do not have to build trust within a vacuum. In contrast, founders of ventures in new industries, without the advantages of a taken-for-granted activity and without widespread sociopolitical approval, must first call upon whatever personal and interpersonal resources they possess. They must interact with extremely skeptical customers, creditors, suppliers, and other resource holders, who are afraid of being taken for fools. With no external evidence, why should potential trusting parties "trust" an entrepreneur's claims that a relationship "will work out," given that an entrepreneur may be no more than an ill-fated fool?

Organizational Strategies

Entrepreneurs need strategies for encouraging a trusting party's beliefs in the shared expectations, reasonable efforts, and competence of the aspiring entrepreneur. Given the absence of information and prior

behavior concerning a venture in a new industry, pioneering founders cannot base initial trust-building strategies on objective external evidence. Instead, they must concentrate on framing the unknown in such a way that it becomes believable. An "entrepreneur must engineer consent, using powers of persuasion and influence to overcome the skepticism and resistance of guardians of the status quo" (Dees & Starr, 1992: 96).

Cognitive legitimacy. Without clear guidelines for assessing performance in an emerging industry, a new venture's stakeholders find it difficult to consistently weigh risk/reward trade-offs. Founders cannot easily convince others to follow their directives, as they have no tangible evidence that such actions will pay off. In established industries, founders can simply cite tradition to their employees and other stakeholders as a justification for particular actions. No such appeal is available to founders in new industries.

Perceptions and evaluations of risk are highly subjective. The framing of an issue, rather than its actual content, often determines whether it is seen as a "foolish risk," especially in the absence of objective standards (Tversky & Kahneman, 1981). Brophy (1992: 396) noted that "new ventures by definition have no history and often provide an inadequate basis for making accurate predictions. 'Gut feel' and the netting of a lot of variables and complex relationships play vital roles in new venture financing decisions." When external tests of reliability are unavailable, cooperation is possible if issues are "simplified, stylized, symbolized, and given ritual expression: if, that is, they are coded in convention" (Hawthorn, 1988: 114). Founders who can behave "as if" the activity were a reality—producing and directing great theater, as it were—may convince others of the tangible reality of the new activity.

Research has documented the powerful psychological effects of issue framing (e.g., Link, 1987). Issue frames are important not only because of their psychological consequences, but also because of their value as legitimating and motivating symbols. In a study of the process by which charismatic leaders transform the beliefs of their followers, Fiol, Harris, and House (1992) stressed the importance of symbolic communication. Based on the results of their study, they concluded that charismatic leaders employ a number of specific rhetorical techniques to change social norms. First, charismatic leaders appeal to a common bond with followers, even when breaking established values, so as to appear trustworthy and credible to society. They do this through the frequent use of inclusive referents such as "we" and "us," as opposed to "I" and "you." Second, charismatic leaders frame issues using high levels of abstraction, thus fostering a degree of ambiguity around their innovative ideas. Howell and Higgins (1990: 336) similarly wrote of technology champions "appealing to larger principles or unassailable values about the potential of the innovation for fulfilling an organization's dream of what it can be." If entrepreneurs frame their innovation broadly enough to encompass existing knowledge, they will appear more credible.

Proposition 1: Founders who utilize encompassing symbolic language and behaviors will gain cognitive legitimacy more quickly than others.

Sociopolitical approval. Innovative founders also face the hurdle of winning the approval of organizational stakeholders for their activities. With institutional support precarious, with other industries mounting attacks on the new industry, and with other ventures within the industry battling over what direction the industry will take, stakeholders within an organization are understandably shy about giving their wholehearted commitment to an entrepreneur. On what basis should they trust the entrepreneur? To the extent that elementary claims of efficacy by innovative entrepreneurs are difficult to verify, because cognitive legitimacy is absent, stakeholders are likely to resist their escalating resource demands.

Founding entrepreneurs must build a knowledge base that outsiders will accept as valid, and yet they have no external source of validation from which to argue. Given the lack of externally validated arguments, they must draw on alternative forms of communication, such as narratives, to make a case that their ventures are compatible with more widely established sets of activities. Rational argument is based on inferential moves and deliberation; narration works by suggestion and identification. Both express reasons to believe.

Philosophers of science have often noted the unique ability of stories to explain events without explicit reference to external criteria (Nagel, 1961). Kaplan (1986) observed that stories provide a way to explain something without having to agree on explicit criteria; subsequently, stories can form the currency of communications to a wider public. "A political leader creates a story that helps persons structure their experience. He draws from their stories to make his more perfect, more encompassing, more capable of attracting a wider following and gaining greater allegiance" (Krieger, 1981: 75).

The validity of a story relies not on a set of external criteria, but on how well the story coheres and is free of contradictions (Fisher, 1985). A founding entrepreneur's "truth" may well contradict the "truth" people know. Stories can bridge the gap, by affirming the former without negating the latter. Based on their study of champions of technological innovations, Howell and Higgins (1990: 336) concluded that "the fundamental components of a champion's capacity to introduce innovations successfully are the articulation of a compelling vision of the innovation's potential for the organization, the expression of confidence in others to participate effectively in the initiative, and the display of innovative actions to achieve goals."

Entrepreneurs need to disguise the truly radical nature of their new activity and the challenge it may pose to established organizations, while simultaneously making a case that they are different enough to hold a comparative advantage. Later, as the emergent industry attains some

stability, founders can look back and tell new stories about the "radical pioneers" in the early days of the industry's history.

> *Proposition 2: Founders who communicate internally consistent stories regarding their new activity will gain sociopolitical approval more quickly than others.*

Intraindustry Strategies

Intraindustry processes constrain the legitimacy of new industries by structuring the immediate environment within which new organizations operate. A lack of standard designs, for example, may block the diffusion of knowledge and understanding, thus constraining the new activities. Once founding entrepreneurs have developed a basis of understanding and trust at the level of their organizations, they must find strategies for establishing stable sequences of interaction with other organizations in their emerging industry.

Cognitive legitimacy. Intraindustry processes of competition and cooperation pose a challenge to new founders, not only because they must convince skeptics of their organization's staying power, but also because they must fend off organizations offering slightly different versions of their products/services, creating confusion in the minds of interested observers (Carroll, Preisendoerfer, Swaminathan, & Wiedenmayer, 1989). Founding entrepreneurs have no ready-made formula for persuading others that they have it right. As Delacroix and Rao (1993) pointed out, organizations founded later in an industry's life cycle benefit by vicariously learning from early successful foundings. The earliest founders have no such advantage.

Early on, founders of potential alternatives implicitly compete for the right to be taken for granted, appealing to potential customers, investors, and others to accept their version. Organizations attempting to copy a new activity, while starting up, are in a difficult position because poorly understood activities are only imperfectly imitable (Barney, 1986; Reed & DeFillippi, 1990). Much of the knowledge of a new industry is only implicit, held by the founders and their employees in uncodified form. Such knowledge is often complex, making it hard for others to identify causal relations (Nelson & Winter, 1982). Finally, knowledge is often bound up in assets that are very specific to a particular organization, creating relationships that are hard for others to duplicate. Thus, until cognitive legitimacy coalesces around a reduced set of accepted standards or designs, pioneering entrepreneurs assembling resources for their organizations will inevitably make frequent mistakes. Foundings will be inhibited and disbandings will be frequent.

The lack of convergence on a dominant design in new industries constrains the perceived reliability of founding firms by increasing confusion about what standards should be followed. Convergence toward an accepted design is facilitated if new ventures choose to imitate pioneers,

rather than seek further innovation. Implicit agreement on a dominant design, common standards, and the interfirm movement of personnel made possible by conditions of imitability increase the level of shared competencies within an emerging industry. Imitation and borrowing from early foundings eventually spread knowledge of new activities beyond their point of origin and contribute to convergence on a dominant design (Anderson & Tushman, 1990). Imperfect imitability is thus reduced and disbanding rates drop as effective knowledge is more widely diffused. Of course, some organizations may gain more than others as an industry's legitimacy is strengthened, as Rao (1993) found in his study of the early years of the American automobile industry. As the auto industry struggled for acceptance, firms that won victories in reliability and speed competitions organized by third parties were more likely to survive than those that did not win.

A new venture's ability to imitate others depends on whether what is being copied is protected by legal instruments—patents, copyrights, and trade secrets—and on whether the innovation is codified (Teece, 1987). If an innovation cannot be legally protected, and it involves a product or process whose nature is transparently obvious to outsiders, others may freely copy the innovation. By contrast, if the innovation can be protected and its nature is difficult to understand, except through learning by doing, the innovation is unlikely to be imitated by others (Dosi, 1988). Discord over a dominant design is exacerbated under these conditions.

Industries with imitable innovations are more likely than others to generate collective action. As founders with imitable products or services realize their innovations are leaking to competitors and potential new entrants, they gain a strong incentive to cooperate on stabilizing conditions in the industry. By contrast, firm-centered actions are likely to increase under conditions of inimitability, as founders are able to protect their core competencies from being widely diffused. Fiercely competitive individual strategies hamper a united collective front by an industry.

Initial collaborations begin informally, in networks of interfirm relations, but some later develop into more formalized strategic alliances, consortia, and trade associations (Powell, 1990). Van de Ven and Garud (1991) noted that those who conducted studies of high-technology industries, such as the cochlear implant industry, have found that new-to-the-world innovations tend to be pursued by a handful of parallel, independent actors who come to know one another rapidly through personal interaction and through traveling in similar social/technical circles, such as attending the same industry conferences and technical committee meetings. This small handful of actors can generate networks that, in the aggregate, result in institutional-legitimating events. If founders can overcome the barriers to effective collective action, they can rise above the level of their individual ventures and run together "in packs" (Van de Ven, 1991).

Imitability's effects appear paradoxical unless we pay careful attention to different levels of analysis. For an industry, easier imitability

means growth, because entry is facilitated, and an expanding market may mean that proportionately more entrants survive. For individual ventures, however, easier imitability makes survival more problematic, because their market becomes crowded with equally competent rivals, and survival becomes contingent on fairly small differences between ventures. One common pattern is that new entrants survive at the expense of early entrants who cannot learn fast enough to keep up. The net effect of imitability is contingent on where an industry is in its life cycle, as it will depend on the relative balance between underlying growth in a market, new entries, and exits from the industry.

Proposition 3: Industries in which founders encourage convergence around a dominant product/service design will gain cognitive legitimacy more quickly than others.

Sociopolitical approval. Collective action is extremely difficult to organize early in the life of an industry due to free rider problems (Moe, 1980; Olson, 1965). To the extent that mistakes are frequent and a consistent body of knowledge emerges very slowly, and thus collective action is impeded, sociopolitical approval may be jeopardized.

Several conditions quite common to new industries impede the collective action needed to gain sociopolitical approval. First, intense competition over designs and standards may prevent any particular firm from growing much faster than the rest of the industry, thus reducing the chances that an industry champion will emerge to energize efforts toward collective action. Second, if competing designs emerge and subgroups form around them, conflict among the subgroups may cause confusion and uncertainty for potential stakeholders. Dissension and diversity within an industry may thus be mirrored by a similar pattern externally, hampering an industry champion's ability to form coalitions promoting the total industry (Bolton, 1993). For example, the nascent pay-per-call information-services industry (using 900-prefix phone numbers) was growing rapidly until it ran into political problems in the early 1990s because it lacked uniform standards and consistent government regulations. U.S. Sprint decided to stop carrying most pay-per-call services because of consumer complaints and difficulties in collecting from customers who disputed their bills. The industry was fortunate to have a trade association, the Information Industry Association, that was able to lobby for uniform federal regulations, although whether the industry will survive in its early form is still uncertain (Andrews, 1992).

The importance of finding avenues to collaborative action within an industry is well illustrated by the history of a new industry in Asia: American universities operating in Japan. In the 1980s, many American universities rushed to set up branch campuses in Japan, as Japanese educators welcomed them as models for educational reform of the Japanese system (Regur, 1992). By the early 1990s, the disbanding of some branches and well-publicized problems in others had eroded Japanese confidence in American university branches, and the industry's future was in doubt.

In response, in 1991, 20 of the strongest programs formed the Association of American Colleges and Universities in Japan, setting standards for quality and reliability for American programs in Japan. The new association markedly improved the image and reputation of such programs, and Japanese local governments have renewed their interest in helping sponsor these ventures.

Funeral home owners' successes in controlling state regulation of the industry kept the founding rates of technically superior alternatives very low (Torres, 1988), almost totally suppressing the emergence of competing industries. For almost a century, locally owned funeral homes in the United States blocked alternatives to traditional means of disposal of the dead, opposing crematoriums, burial societies, and chain-owned funeral homes. Locally owned homes, which controlled most state boards regulating the industry, imposed requirements that were intended to exclude alternative forms, such as prohibiting corporate ownership, requiring that all establishments be fully equipped, prohibiting establishments from sharing equipment, and requiring that all establishments employ a full-time embalmer.

In Europe, small retail shops resisted the growth of large shops located in suburban areas (called hypermarkets) by arguing that the long hours and weekend operations of such businesses threatened traditional values by disrupting family life. "Blue laws" in the United States have been used by small shops for the same ends.

> *Proposition 4: Industries in which founders mobilize to take collective action will gain sociopolitical approval more quickly than others.*

Interindustry Strategies

Interindustry processes—the nature of relations between industries, whether competing or cooperating—affect the distribution of resources in the environment and the terms on which they are available to entrepreneurs. Established industries that feel threatened are sometimes able to change the terms on which resources are available to emerging industries, either by questioning their efficacy or their conformity to the established order. Even after a new industry develops into a recognized entity, other industries may withhold recognition or acceptance of it. If a critical mass of founders unites and builds the reputation of their new industry as a visible and taken-for-granted entrant into the larger community, gaining sociopolitical approval is more likely.

Cognitive legitimacy. Established industries that feel threatened by a newcomer may undermine a new venture's cognitive legitimacy through rumors and information suppression or inaccurate dissemination. Though sometimes a low level of cognitive legitimacy may be an advantage for a new venture (when the activity is not taken as a serious threat), it is a detriment when older, competing firms spread rumors that

a product or technology is unsafe, costly, or of inferior quality. For example, early mail- and phone-order computer supply stores in the United States were highly specialized, selling mainly to people very knowledgeable about electronics who were building or modifying their own equipment. When the industry began to grow rapidly in the 1980s, selling to "amateurs," traditional walk-in stores argued that such operators did not provide after-sales service and, thus, were an inferior form. Similarly, HMOs confronted bitter opposition from traditional physician practices, and they grew slowly until other organizations intervened on their behalf (e.g., large insurance companies) (Aldrich, 1989; Wholey, Christianson, & Sanchez, 1990). Traditional physicians argued that HMOs violated customary expectations about effective physician-patient relationships and, thus, delivered inferior services to patients. In the United States, high-technology firms, such as medical-equipment manufacturers, tried to use cognitive legitimacy arguments as a weapon against small, independent firms that wanted to service the machines the manufacturers sell to customers, such as clinics and hospitals (Naj, 1991). The manufacturers, such as Eastman Kodak, argued that third-party service technicians could not legitimately service their machines because they lacked the manufacturer's training and diagnostic service equipment. Had they been successful, they would have suppressed the growth of the independent repair industry, but the courts did not accept their claims.

Founders must build a reputation of the new industry as a reality, as something that naturally should be taken for granted by others. A new vocabulary must be coined, new labels manufactured, and beliefs engendered in an industry with no natural history. Although formulated in the context of examining behaviors and meanings within organizations, Fiol's (1991) proposition that identities link an organization's culture (consisting of unarticulated underlying beliefs and values) with the behaviors of its members, illuminates the task facing new founders. The actors who are the targets of entrepreneurs' legitimizing strategies (suppliers, distributors, bankers, and so forth) attempt to make sense of entrepreneurs' behaviors by drawing on current understanding of what they observe. This meaning-making process is mediated by what people perceive as the identities of the founders: gamblers, serious business leaders, cowboy entrepreneurs, high achievers, wild-eyed inventors, water-walkers, and so forth. Any of these labels is potentially applicable, but their meanings differ drastically.

Entrepreneurs can take advantage of the inherent ambiguity in interpreting new behaviors by skillfully framing and editing their behaviors and intentions vis-à-vis the trusting parties. They need to emphasize those aspects of their ventures and their own backgrounds that evoke identities that others will understand as risk oriented but responsible. Founders must do this work for their individual ventures as they negotiate with other firms, but a more powerful image can be invoked when founders work through interfirm associations.

Trade associations are "minimalist organizations"—they can be operated via low overhead and quickly adapted to changing conditions—and, thus, are easier to found than, for example, production organizations (Halliday, Powell, & Granfors, 1987). Many trade associations, following the example of state bar and other voluntary associations, operate out of the offices of member firms in their early years. Others are administered by law firms that represent some of the larger firms in the industry. Thus, the catalyst to an association's founding is often an industry champion who steps forward and volunteers to cover the costs of running the association as it recruits enough members to gain a stable dues base. Typically, the largest firms in an industry do this, and they are well represented on the association's board of directors.

Interfirm linkages such as trade associations play a critical role in helping entrepreneurs promote an industry's cognitive legitimacy (Aldrich & Staber, 1988). They help firms formulate product/process standards through trade committees, trade journals, marketing campaigns (to enhance the industry's standing), and trade fairs (where customers and suppliers can gain a sense of the industry's stability). Trade associations represent the industry to government agencies, and they play a critical role in times of crisis (when an industry's public image may be threatened).

> *Proposition 5: Industries in which founding firms promote their new activity through third-party actors will gain cognitive legitimacy more quickly than others.*

Sociopolitical approval. Insufficient cognitive legitimacy renders a new industry vulnerable to interindustry processes that may jeopardize its normative acceptance. Established organizations in related industries often strongly oppose the rise of new ventures seeking to exploit similar resources, and they may try to block these new ventures at every turn, including questioning their compatibility with existing norms and values. Established organizations usually do not challenge entrepreneurs' generic rights to create business organizations (such rights are assured in most Western political democracies), but rather they resist the creation of ventures that threaten the markets of established industries. In addition to questioning the knowledge base of a new industry, established industries may effectively oppose a newcomer by inducing legal and regulatory barriers.

The emergence and growth of new industries is thus partly dependent on the severity of attacks from established industries that may resist encroachment. They may raise doubts about the new activity's efficacy or its conformity with societal norms and values and, thus, change the terms on which resources are available to emerging industries. Beyond recognition, new industries need reliable relationships with other, established industries. Once cognitive legitimacy is achieved, tacit approval in the form of economic transactions is more likely. Some forms of interindustry

cooperation emerge as the unintended consequences of competing industries pursuing their self-interests, whereas other forms are more deliberate. For example, in his study of three forms of cooperatives in Atlantic Canada, Staber (1989) found that increases in the density of several forms of cooperatives improved the overall climate for cooperatives to such an extent that founding rates for other types were increased. The cooperatives not only provided direct support to each other, but also created a positive image of cooperative activity that raised the salience of norms of cooperation in the region.

If a new industry faces overt conflict with an established industry, a trade association or an industry council is probably required to mobilize the newcomer's strength. However, many interindustry relations are more matters of education and negotiation than of zero-sum conflict. For example, new biomedical and health-care industries only survive if they can convince third parties (insurance companies and the government) to pay the costs that patients cannot bear, such as CAT scans or cochlear implants. Thus, firms in the industry must cooperate to educate and influence these third parties to include the product or service in their payment reimbursement systems (Van de Ven, 1991).

The paradox of individual versus collective benefits is again apparent: pioneering ventures that solicit or accept cooperative relations with established industries may succeed to such an extent that followers (so-called "second movers") enter the fledgling industry with lower costs and thus drive the pioneers out of business (Jovanovic, 1982). Osborne Computer, for example, was a pioneer in bundling other manufacturers' software with its products, but did not survive some costly marketing blunders that gave other firms a chance to surpass it. At the industry level, however, such cooperation often is essential for survival.

> *Proposition 6: Industries in which founding firms negotiate and compromise with other industries will gain sociopolitical approval more quickly than others.*

Institutional Strategies

Institutional conditions may constrain the rate at which an industry grows by affecting the diffusion of knowledge about a new activity and the extent to which it is publicly or officially tolerated. If founders have pursued effective trust-building and reliability-enhancing strategies within their emerging industry, and have established a reputation vis-à-vis other industries, the groundwork has been laid for attaining legitimacy at the institutional level. At this level, founders are no longer working as isolated individuals. Instead, industry councils, cooperative alliances, trade associations, and other vehicles for collective action are in place to achieve institutional legitimacy.

Cognitive legitimacy. Established industries enjoy an enormous benefit via the institutionalized diffusion of knowledge about their activities.

The "social space" (Delacroix & Rao, 1993) an industry has achieved in a society is sustained, in part, by a widespread understanding of how it fits into the community. At the beginning, organizations in the new industry are too rare to create the critical mass needed to begin raising the new industry's level of cognitive legitimacy. Reporters, newspaper and magazine editors, and other mass media gatekeepers are unfamiliar with the set of terms for describing the activity, and their depictions may be inaccurate. Thus, potential entrepreneurs (i.e., early followers) may be seriously misled if they rely on such reports, and mistakes in imitating the new activity will be common (Phillips, 1960).

The lack of general understanding of the new industry also makes it difficult to recruit and retain employees. People wonder what will happen to their careers if they join a persuasive entrepreneur in building a totally new organizational venture. Because new ventures tend to be specialized, the skills they require may not be easily transferable to other organizations that are searching for people with recognizable talents.

Educational institutions create and help spread information about the competencies these organizations need. Educational institutions, especially vocationally and professionally oriented ones, base their training on curricular materials prepared by mass market–oriented publishing houses. Without an accepted vocabulary or conceptual framework, writers and editors face serious difficulties in devising manuals and textbooks. Because such programs are backward-looking, training people in skills for which curricular material has already been prepared, founders cannot rely on existing programs to train their employees (Romanelli, 1989).

A new industry must either build on the competencies already supported or find ways to encourage the provision of new ones. In technology-based industries, the basic research on which firms draw often has been generated in university laboratories a decade or more before it was commercialized (Link & Bauer, 1989). For example, the basic ideas for cochlear implant devices were developed in the late 1950s and early 1960s, almost two decades before the ideas were fully commercialized. Thus, firms such as Nucleus and 3M had an already developed pool of scientific expertise from which they could draw consultants and employees (Van de Ven & Garud, 1991).

In the United States, new firms regularly establish partnerships with community and technical colleges, often at the request of local economic development agencies that are hopeful of the generation of new jobs. Because educational institutions are inherently conservative in their curriculum development, a new industry must achieve a fairly high degree of self-organization before curriculum materials will be written especially for them. Superconductor research was well underway in the United States before universities began putting science/industrial ceramics sequences into their applied sciences and engineering curricula. Shan, Singh, and Amburgey (1991: 82) noted that early in the history of the

biotechnology industry in the United States, "there was only a limited supply of scientists with Ph.D.s and other specialized training so essential for an NBF [new biotechnology firm]." Eventually, as career prospects in the industry became known, more recruits were attracted, and the supply of scientists improved.

> *Proposition 7: Industries that create linkages with established educational curricula will gain cognitive legitimacy more quickly than others.*

Sociopolitical legitimacy. Lack of institutional support for the diffusion of knowledge about new industries also may undercut an industry's efforts to secure sociopolitical approval. Most forms of business enterprise have enjoyed at least institutional tolerance of their existence when they first emerged (Delacroix et al., 1989; Zucker, 1989), but this apparent easy success has blinded us to the occasions on which such support has not been forthcoming or has been lost. The first newspaper editor in the United States was jailed (Delacroix & Carroll, 1983), the life insurance industry was initially vilified as profaning the sacredness of life (Zelizer, 1978), and many forms of interbusiness alliances were ruled illegal in the 19th century (Staber & Aldrich, 1983).

Low sociopolitical legitimacy is still a critical barrier to many potential business activities today. For example, new schemes for burning or burying toxic waste often clash with U.S. communities' norms about local control over land-use decisions (Levine, 1982). A similar public controversy dogged attempts by chemical firms manufacturing fluoride to convince local community officials to purchase fluoridation systems for their public utilities (Coleman, 1957). In such cases, firms try to hire lobbyists with local connections and to form "citizens' groups" backing the proposed scheme.

New industries whose activities and long-term consequences are not well understood may have trouble in winning approval from cautious government agencies. In the 20th century, U.S. firms in the fledgling biotechnology industry, which based their technologies on manipulation of DNA, faced a major hurdle in winning FDA approval of their testing procedures. New industries whose production technologies may put workers at risk have to win approval from state and federal OSHA offices. Once an industry's activities are well understood, government regulatory agencies have shown considerable resistance to new industries whose activities challenge an older industry but which use unfamiliar or novel technologies. In the 1980s, the removal of federal regulations in many industries made us aware of how many new forms of organization were suppressed by implicit governmental strictures against their activities (e.g., cellular phones) (Haveman, 1990; Prentiss, 1984).

In the U.S. political system of divided executive and legislative branches, and with independent regulatory agencies, newly organized industries ultimately must co-opt, neutralize, form alliances with, and

otherwise come to terms with, government agencies. The biotechnology industry developed in an environment of great uncertainty, because firms did not have a clear idea of what products would be regulated and what safety tests would be required by the Environmental Protection Agency, the Food and Drug Administration, and the Department of Agriculture. Accordingly, the Industrial Biotechnology Association lobbied the FDA, the EPA, and other agencies in an attempt to create a more certain regulatory environment. The first FDA ruling in 1981, approving the first diagnostic kit based on a monoclonal antibody, significantly raised the founding rate of biotech firms in the years that followed (Shan et al., 1991).

Biotechnology firms also appealed to the President's Council on Competitiveness to pressure federal agencies to weaken regulations perceived as hindering the growth of the biotech industry. In what we take as a sign that sociopolitical approval had finally been achieved at the highest levels of government, these efforts were rewarded in early 1992. President Bush issued a new government policy on biotechnology which said that genetically engineered products should not be assumed to be inherently dangerous and that regulations for biotechnology products should not receive greater scrutiny than products produced by conventional means (Fisher, 1992; Hilts, 1992).

The cochlear implant industry faced a similar problem as its products were brought forward for official scrutiny (Van de Ven & Garud, 1991). Contracts and grants from the National Institute of Health for basic cochlear implant research stimulated university-based research, and some discoveries were developed into potentially commercial products in the late 1970s and early 1980s. Five private firms initiated activities, but each had its own ideas about product standards, appropriate tests, and so forth. Conditions stabilized only when the FDA gained experience in testing the new technology and began systematically favoring certain kinds of evidence on product safety over others. Government agencies such as the FDA and EPA are important for any new industry whose products or services are costly, technically complex, and whose use may create an irreversible health or welfare condition for a user (Van de Ven, 1991).

Government agencies can play a role in structuring the interorganizational environment of new industries in ways that encourage trusting relations between firms. Rappa's (1987) study of the development of the gallium arsenide integrated circuit in the United States, Japan, and Western Europe found that more firms and scientists were involved in the United States, but in Japan there was greater coordination among the firms' and scientists' efforts. In Japan, MITI encouraged interfirm cooperation via industry and trade committees. The cooperating firms jointly formulated industrial governance policies, developed a competence pool of scientists and managers through training programs and informal information sharing, and also worked on commercial applications of the technology (see also Fransman, 1990). By contrast, U.S. firms stood on the sidelines and waited for an industry infrastructure to emerge on its own.

Proposition 8: Industries that organize collective marketing and lobbying efforts will gain sociopolitical approval more quickly than others.

The strategies for generating and sustaining trust, reliability, reputation, and finally, institutional legitimacy, are as interrelated as the hierarchical contexts that spawn them. Gaining the trust of stakeholders within and around the firm provides a basis from which to build a knowledge base via cooperative exchange rules with other similar organizations. Such interactions, in turn, make it easier for member firms to organize collectively and to build a broad reputation of their industry as an enduring reality. An established reputation facilitates the co-optation of institutional actors, ultimately leading to legitimacy.

Though we have emphasized the communicative aspects of trust building at the organizational level, trust is the "lubricant" (Dasgupta, 1988: 49) that smoothes the way throughout the legitimacy-building process. As founders pursue legitimacy within successively broader social sites, they must continually persuade without proof. Evidence of trustworthiness within one context does not automatically serve as evidence of trustworthiness within a broader context. Fortunately for founders, trust has the capacity to be self-fulfilling and self-reinforcing (Gambetta, 1988), making it a powerful weapon against the vicious cycle of social barriers to innovation.

DISCUSSION AND CONCLUSIONS

New organizations are always vulnerable to the liabilities of newness, but never more so than when entrepreneurs have few precedents for their actions. The first organization of its kind faces a different set of challenges than one which simply carries on a tradition pioneered by many predecessors. Given the institutional, interindustry, intraindustry, and organizational conditions facing pioneering founders, different strategies are called for than those used by imitators and borrowers. Such foundings are risky, but they need not be foolish. We have highlighted the conditions under which founders can pursue strategies that could culminate in an industry gaining legitimation at the institutional level. We began with a discussion of the dynamics at the organizational level, suggesting how the progressive building of trust may work its way up the hierarchy, collectively reshaping the interindustry and institutional environments.

The period during which a new industry emerges deserves more theoretical attention, because the struggle to carve out a niche for a new industry involves such strong forces that the events of that period may be forever imprinted on the organizations that persist (Stinchcombe, 1965). Indeed, the model of industry development implicit in Table 1 points toward a new activity pattern that eventually is in harmony with its interorganizational and institutional environments. As a settled member of

the community, the new industry takes its place as a defender of the status quo.

Our examination of the early phases of an industry's life also implies that many promising new activities never realize their potential because founders fail to develop trusting relations with stakeholders, are unable to cope with opposing industries, and never win institutional support. Thus, understanding the strategies used by founders of new ventures helps us understand the forces contributing to industry variety in organizational communities.

Finally, the strategies that emerge from our reframing of ecological and institutional theories raise an important practical issue. Strategy theorists have long prescribed uniqueness and imperfect imitability as means of gaining a sustainable competitive advantage (Barney, 1986; Reed & DeFillippi, 1990). Our framework suggests that a single venture's uniqueness during initial stages of an industry's development must be counterbalanced with the collective efforts of all players in the emerging industry to portray the new activity as familiar and trustworthy, if they are to survive as a group.

Research Directions

Generating and sustaining trusting relationships are at the heart of overcoming low legitimacy. We have offered a number of propositions about effective strategies for achieving trust in the development of new industries. Researching these ideas will take us beyond the cross-sectional surveys that currently dominate methods of data collection in entrepreneurship research (Aldrich, 1992). The creation and institutionalization of new activities occurs through a dynamic process that cannot be captured in discrete snapshots. A number of additional research implications emerge from our study.

First, entrepreneurship researchers often attempt to distinguish between new businesses that copy well-known practices in their industry and businesses that are truly innovative, pioneering practices without precedent. However, such distinctions are almost always made within the context of an established industry, rather than calling attention to the possible origins of a new industry. Investigators thus conflate two very different events that pose very different problems for entrepreneurs: innovating within an institutionalized context versus striking out into uncharted waters, where industry boundaries are not yet secure. In the future, researchers of entrepreneurship need to separate these two forms of innovation.

Second, the debate in the ecological-institutional literature over "legitimacy" has focused, in part, on the issue of left-censoring of a population's history: Are data on the population available from its earliest days, when foundings were beginning to be observed? Left-censoring of data (i.e., not having the early years of an industry's history available) can lead to misspecification of models and biased conclusions regarding

the pattern of population growth. However, such debates overlook a more serious form of selection bias: to the extent that researchers study only industries that survived long enough to make their mark upon the usual sources of archival information, they overlook the unsuccessful industries. Groups of firms that struggled and did not succeed in becoming institutionalized provide the best historical record for testing our ideas about the social context of industry formation. Indeed, only by comparing the strategies of terminated industries with those that completed their life cycles can we assess the relative importance of the forces we have identified in this article.

How can we avoid a bias against industries with truncated histories? Becoming aware of the issue is a good start. Just as evolutionary theorists have made us aware of the danger of focusing our research attention on cross-sectional studies of surviving organizations (Aldrich, 1979: 56–61), so too must we become aware of our tendency to focus on surviving industries. We must pay more attention to economic and business history, written not at the level of case studies of individual firms, but rather at the level of eras and epochs. Which activities have attracted entrepreneurs, speculators, investors, and others, only to lose out when support was not forthcoming from key stakeholders, other industries, and institutional forces? We have found that the business press is a good source of information on new activities that attract attention because they are challenging traditional industries, failing in spectacular fashion, or otherwise making short-run news.

Third, when a new industry's origin is identified, researchers must focus intensively on its early years. Ecologists have now collected information on fairly complete life histories for many populations, but only for such generic events as foundings and disbandings. In addition to these key events, researchers must also collect information on patterns of contact between the entrepreneurs who founded early ventures, and especially on any efforts they undertook to create vehicles for collective action. We also need information on how other groups of firms (possible competitors, regulatory agencies, local governments, etc.) responded to the first new ventures in a fledgling industry.

Fourth, a new industry's boundaries are ultimately determined by the balance it achieves between competition and cooperation vis-à-vis other groups of firms. Hannan and Freeman (1986) adopted the language of institutional theory in arguing that a population's boundaries are socially constructed. We have argued that whether a new population even finds a niche for itself in the community of populations is problematic. Research is needed on contacts at the boundary between industries: How are such contacts managed? Is there an implicit division of labor within new industries according to which founders negotiate boundaries? Have governments made this process easier or more difficult for new industries?

Fifth, within new industries, the key events affecting their emergence as stable entities involve the formation of other types of organizations

(Delacroix & Rao, 1993). These signs of an industry's success—industry councils, trade associations, joint university-industry research ventures—have been investigated, but they have not been linked to the life cycle of industries. By focusing on these independent markers of an industry's legitimacy, we can avoid the ambiguity inherent in trying to infer a social process from mere increases in the number of member organizations.

Finally, investigating these ideas will require expanding our disciplinary reach to take in anthropologists, political scientists, social psychologists, and others interested in understanding the genesis of contexts that give meaning to new behaviors. The social construction of organizational reality involved in building a new industry requires meaning making on a grand scale, and we suspect that those entrepreneurs who do it well are obsessed with the process. As such, they make fascinating subjects of study.

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