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Commitment to an Emerging Organizational Field, Institutional Entrepreneurship, and the Perception of Opportunity: An Enactment Theory

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ABSTRACT

Given an indifferent institutional environment, ongoing commitment to an emerging organizational field is critical. We build and test an enactment theory of commitment that holds that commitment is driven by institutional entrepreneurship, specifically actions to educate stakeholders, but that this factor is mediated by perception of an opportunity that rests on beliefs in industry attractiveness, superior products and services, and the likelihood of disruptive exogenous change. We illustrate this theory with findings from surveys of energy efficiency and renewable energy businesses. The results highlight the central role of actions to educate stakeholders. When an institutional domain is not yet fully established, the effect of entrepreneurs' actions to educate stakeholders is not just external, but has an important inward function of bolstering the entrepreneurs' ongoing commitment to the emerging field.

KEYWORDS: Institutional entrepreneurship, commitment, persistence, enactment, cognition

Organizational fields are "sets of institutions and networks of organizations that together constitute a recognizable area of life" (DiMaggio and Powell 1983; Maguire et al. 2004: 659). When fields are well-established, commitment to them is high, but when emerging (Fligstein 1997; Maguire et al. 2004), such fields tend to be underorganized domains where commitment is tenuous (Trist 1983; Hardy 1994). A tenuous commitment to an emerging field means that the dedication and loyalty needed to make the field a recognized and well-established domain are not yet strong. Organizations may exit before the field has fully matured because of a lack of confidence that the field will become a recognized domain of activity. Given that it usually takes several decades for a field to mature – to move from an initiation stage to the takeoff stage when the field gets off the ground and begins to successfully grow (Klepper and Grady 1990), a crucial question is what sustains commitment during the lengthy period when success may appear doubtful or unlikely.

In this paper, we develop a theory of enactment (Danneels 2003) that helps to explain why commitment to an emerging field persists. According to this theory, actions affect commitment through beliefs (Salancik 1977a). Institutional entrepreneurs take actions to influence relevant stakeholders. They attempt to mobilize the stakeholders and infuse them with the field's norms and values. They frame problems and tell stories to justify the need for the field (Lounsbury and Glynn 2001). In this way they firm up collective action in what is otherwise an underorganized domain (Rao et al. 2000). Their actions to influence stakeholders in turn shape and mold their own perceptions that the opportunity that they perceive with respect to the field has substance and meaning. The institutional entrepreneurs' actions reinforce their beliefs that the domain is an attractive one, that they have something of special value to contribute to it – a superior product or service, and that disruptive exogenous change will positively affect the field's growth and development. As these beliefs intensify, the entrepreneurs' commitment increases (DiMaggio 1988).

Our theory of enactment is one whereby institutional entrepreneurs' actions influence their perception of opportunity which in turn influences their commitment. We illustrate this theory through surveys of energy efficiency and renewable energy businesses. Results suggest that the actions the entrepreneurs take fortify their perception of opportunity, which in turn strengthens their commitment to the emerging organizational field.

Commitment to An Emerging Organizational Field

An emerging organizational field typically is enveloped in a sea of controversy and skepticism about what it does, about the quality, reliability, and performance of its products. Given that many such fields never really get off the ground (Hannan and Freeman 1989), we propose that understanding the antecedents of commitment to such a field is very important.

An emerging field operates in something akin to an institutional vacuum. It suffers from lack of legitimacy, incomplete acceptance, and uncertainty about whether the field is needed and desirable. The participants face hostility and opposition from participants in competing fields whose interests are to prevent the emerging field from arising. Commitment during this uncertain period is essential, as formidable obstacles exist and setbacks are almost sure to occur; thus, managers must possess the resolution to overcome these difficulties. A lack of commitment often leads to abandoning the field in the interim between initiation and takeoff, decreasing the likelihood that the field will ever become fully established.

Commitment can be "generally defined as a willingness to persist in a course of action" despite the obstacles (Cooper-Hakim and Viswesvaran 2005: 241). While an extensive and varied literature on commitment in organizations exists (e.g., Salancik 1977a,b; Cooper-Hakim and Viswesvaran 2005), there is little work investigating commitment to an emerging organizational field that shows promise but whose success is still questionable. Such commitment to an emerging field is not about escalating commitment to a failing course of action (Staw 1981, 1997; Staw and Ross 1987), but about maintaining commitment to the field when its legitimacy is still in doubt.

This article is about commitment relatively early in the life cycle of a field when things are not completely defined, standards are not yet entirely familiar, and resources for survival are not yet ample (Zimmerman and Callaway 2001). This period of the life cycle can last decades, and the resulting situation of extended promise without corresponding take-off may be called prolonged gestation (Porter, 1980). During prolonged gestation many questions about technology, market growth rates, prices, investment, and demand remain open and ambiguous. Institutional entrepreneurs continue to search for answers to such fundamental issues as who will be the main adopters, what will be the technology's design path, what role will government play, where trained employees will come from, and how sufficient capital can be raised.

A crucial question is what sustains institutional entrepreneurs' commitment to an emerging field during a period of prolonged gestation when the industry's success is not assured. Why does the developing field remain central to who the entrepreneurs are and what they do (Albert et al. 2000)? Why do they persist in describing their core technologies and key products as part of the field? What explains their ongoing and continued allegiance, loyalty, and devotion? While there are many studies of the entrepreneurs who start new ventures (Shane and Venkataraman 2000; Shook et al. 2003; Choi and Shepherd 2004), little attention has been paid to the factors that affect this type of continued commitment to an emerging field. Our article addresses this gap.

Institutional Entrepreneurship

A growing literature concerns institutional entrepreneurship. This literature says that institutional entrepreneurs enter into the institutional vacuum of an emerging field and build the institutions that are needed to support the field and facilitate and enhance its development. These entrepreneurs try to alter understandings and scripts (Barley and Tolbert 1977) and provide robust explanations as to why the new field is needed. They are the agents in the institutionalization process who help to socially construct the field by means of the discursive practices (Lounsbury and Glynn 2001; Munir and Phillips 2005). In constructing the reality of a new field, they rely on discourse to create categories and norms that govern the field and shape the understandings and behaviors of the participants. Through such discourse, the entrepreneurs essentially construct the field, establishing the self-regulating and taken-for-granted conventions that shape participants' interactions.

In emerging fields, institutionalization is an unfinished process, not an achieved state. Institutional entrepreneurs are able to both conceive of alternative fields and to deinstitutionalize existing ones (DiMaggio 1988). The up-and-coming field may crystallize into something solid, but there are no guarantees, and crystallization can be a very slow, painstaking process that remains unfinished for quite some time.

The impetus for producing greater crystallization is generally thought to be the institutional entrepreneur, who engages in a process of structuration (Lawrence et al. 2002) aimed at fashioning stable understandings among participants about the field and how it operates. The institutional entrepreneur structures the field so that the rights, responsibilities, and relationships of the actors are specified. The field thus loses its volitional character and begins to have a taken-for-granted one. Patterns of social action fall into place and organizations commence having common understandings and practices. Once the field comes together, it is characterized by very strong norms, which function as Weber's proverbial "iron cages." In strong fields, participants *must* play by the rules; they have no choice. In weak fields, participants have considerable leeway because goals are ambiguous, consequences unpredictable, and participation itself unsteady.

Institutional entrepreneurs see in new fields "an opportunity to realize interests they value highly" (DiMaggio 1988; Maguire et al. 2004: 658); their institutionalization of these fields is a product of "political efforts" to "accomplish their ends" (DiMaggio 1988: 13). They mobilize constituencies to realize their interests (Maguire et al. 2004), attempting to create an environment where their claims are central (DiMaggio 1988). Critical to this process is their interactions with stakeholders to whom they go with their vision of how the field should function. They try to structure the field in a way that their claims are advanced by the field's core constituencies and supporters (Lounsbury and Glynn 2001). In this way, institutional entrepreneurs manage the legitimation process when things are undefined, standards are unfamiliar, and the resources needed for survival are still not ample (Zimmerman and Callaway 2001**).** They go so far as to shape the field by setting up the rules of the game in ways that are meant to benefit themselves. They form linkages and make networks the source of their centrality by piggybacking on the credibility of stakeholders to bolster their position in the field with regard to both customer awareness and distributor networks.

Given the institutional vacuum that confronts institutional entrepreneurs who pursue uncertain opportunities, a vital form of action involves this struggle to achieve cognitive and sociopolitical legitimacy, or what Aldrich and Fiol (1994) refer to as "taken-for-grantedness." According to Aldrich and Fiol (1994), founders of new ventures must act as "institutional constructionists" who aim to create a favorable social climate. They must "reconstitute meaning around them" by "educating and making others aware" so that the endeavor in which they are engaged gains legitimacy. Such education is important because crucial stakeholders still do not fully understand the nature of the new venture and established institutional roles remain in question. Action is necessary to educate and convince key stakeholders that the venture is given, right (Aldrich and Fiol 1994), and worth pursuing. As Suchman (1995: 591) writes, entrepreneurs

> who depart substantially from prior practice must often intervene preemptively in the… environment in order to develop bases of support specifically tailored to their … needs… [they] must go beyond simply selecting among existing…beliefs; they must actively promulgate *new* explanations of social reality.

According to DiMaggio and Powell (1983), institutional entrepreneurs participate in the creation of a new "organizational field" by bringing along supporting stakeholders.

An Enactment Theory

In carrying out this activity, institutional entrepreneurs have to overcome a sense that what they are doing is foolish. (Aldrich and Fiol , 1994: 645) Others are likely to see the venture as foolish because it lacks sufficient ties with a supportive social environment that understands or completely acknowledges its taken-for-grantedness. The difficulty of predicting the future and the vast uncertainty inherent in all new endeavors make success less than completely assured. Believing that one can succeed against such difficult odds, indeed, may have an irrational component; thus, the institutional entrepreneur must have an optimistic bias (or act on what Keynes, 1936, called "animal spirits" – Freeman 1982: 156), for without it, the contemplation of failure could overwhelm their inclination to go on.

An enactment perspective helps to identify why the institutional entrepreneur believes that what others consider unreasonable is instead a worthwhile pursuit (Salancik 1977a,b;

Danneels 2003). Enactment involves the recognition that actors face environments which in part are self-created (Weick 1979). The process (see Figure 1) is one in which the actions of institutional entrepreneurs and beliefs jointly determine each other in a *recurring* pattern over time (Danneels 2003). Institutional entrepreneurs take actions which then bind them to the belief of pursuing uncertain opportunities. Being more bound to the uncertain opportunities, their beliefs grow and develop to justify the actions. In this way, the actions the entrepreneurs take with respect to uncertain opportunities shape their beliefs and bolster their commitment. Actions they take based on the beliefs create a reality that further alters their beliefs and in turn prompts them to additional action. We therefore posit that the actions the institutional entrepreneurs take with regard to stakeholders strengthen their belief in the existence of the opportunity. Their commitment is "a state of being" in which they are bound by their actions and through these actions to beliefs that further sustain their activities and involvement (Salancik, 1977b: 62). These actions firm up and bolster their belief in industry attractiveness, in the superiority of their product or service, and in the likelihood of positive, disruptive change in the external environment. We develop specific hypotheses from this reasoning in the sections that follow.

INSERT FIGURE 1 ABOUT HERE

Hypothesis 1: Actions to Educate Others. Institutional entrepreneurs need a "recognized area of institutional life" that includes "key suppliers, resource and product consumers, … and other organizations" (DiMaggio and Powell 1983: 148). Enlightening these key business stakeholders is somewhat paradoxical. On the one hand, inertia is built into existing ways of thinking, and entrepreneurs have to isolate themselves to initiate a new endeavor (Dosi 1982;

Van de Ven and Garud 1989). They must bypass the strong norms wrapped up with existing paradigms that limit peoples' openness to information and alternative ways of acting and, if unchecked, yield "collective blindness" (Janis 1982; Nahapiet and Ghoshal 1998). On the other hand, for their ventures to succeed, the institutional entrepreneurs have to forge a complex array of new social and economic relations (Porter 1980; Van de Ven and Garud 1989; Garud 1994). Rarely does a single entrepreneur possess the resources and competencies to sustain the development of a new venture entirely on its own (Garud 1994). A community of "symbiotically-related" organizations (Van de Ven and Garud 1989: 205) has to exist. As Nahapiet and Ghoshal (1998) argue, organizational advantage comes from creating and sharing knowledge in social communities – networks of mutual acquaintance and recognition where durable obligations based on structural, relational, and cognitive dimensions come into being. To believe that the expected value of the opportunity is large enough to compensate for the cost of foregone alternatives (Shane and Venkataraman 2000), institutional entrepreneurs need strong social ties to such critical stakeholders as customers, resource providers (Aldrich and Zimmer 1986), and competitors. Thus, they must participate in the creation of a complex set of relations with these parties – both collaborating partners (Garud 1994), who possess complementary assets and skills, and rivals, who, though in conflict, have shared interests in commercializing a similar group of new products and services.

In their efforts to educate and make major stakeholders aware of the potential value of the uncertain opportunity, entrepreneurs frame the unknown in way in which it becomes believable and desirable. Competing for the right to be taken for granted, they rely on rhetoric – consistent stories, encompassing symbolic language and behaviors to gain legitimacy for their activities (Aldrich and Fiol 1994). They use their powers of persuasion to overcome resistance and skepticism (Dees and Starr 1992). Salancik (1977a,b) argues that commitment stems from taking such volitional (i.e., the actor initially has a choice), irrevocable (i.e., it's hard to back out), and public actions (i.e., the actions cannot be easily denied). These actions to make others aware lead to commitment. In addition to this logic, actions taken may lead to finding supporting evidence regarding the viability of the endeavor, thus providing more rational justification for increased commitment. Since perceived stakeholder support is related to the entrepreneurs' decisions to begin opportunity exploitation (Choi and Shepherd 2004) and increases their commitment to the uncertain opportunity, we hypothesize:

H1: *Institutional entrepreneurs who take actions to educate and increase awareness among major stakeholders will have a greater commitment to an emerging organizational field.*

Hypotheses 2-4: Beliefs that Justify Commitment. Viewing a prospective course of action as credible depends on beliefs as well as actions (Krueger 2000). Before an outcome is realized, it cannot be known if there will be marketplace superiority and success (Gort and Klepper 1982). Because of this uncertainty, the construction of opportunities depends on a psychological logic (Dutton 1993; Krueger 2000), an optimistic bias based on beliefs without which entrepreneurs would be unlikely to proceed. People who exploit opportunities tend to frame information more positively and respond to positive rather than negative perceptions of what is likely to happen next (Palich and Bagby 1995; Shane and Venkataraman 2000). They tend to believe that the chances of success are higher than they actually are (Cooper et al. 1988). These beliefs are critical (Dutton 1993; Krueger 2000), since perceptions of opportunities vary according to the beholder (Krueger 2000).

Whether entrepreneurs have true superior insight or merely an optimistic bias, "entrepreneurship requires that people hold different beliefs" (Shane and Venkataraman 2000:

220; Eckhardt and Shane 2003; Shook et al. 2003). We argue that three beliefs in particular are essential to driving commitment to an emerging organizational field.

The first of these beliefs is that the opportunity is attractive. Typically, economic competition drives rates of return in particular sectors to nearly perfectly competitive rates. Natural selection then exerts pressure on firms to become homogenous to the point that they begin to resemble each other in technology, knowledge, and organizational forms and practices (Porac et al. 1989; Reger and Huff 1993). Institutional entrepreneurs, however, believe that they can see beyond conventional practice (Brouwer 1991), and that they can set in motion events that disrupt, destroy, and render obsolete established ideas (Schumpeter 1934; Garud 1994). In comparison to most people, they believe that they have a wider horizon from which to try yet unproven possibilities. They can envision new combinations among factors of production, either production increases using the same amount of production factors, or the same level of production using a lesser amount of these factors (Brouwer 1991: 16). They tend to believe they are engaged in the "creation or identification of new ends and means … previously undetected or unutilized by market participants" (Eckhardt and Shane 2003: 336). Thus, we hypothesize that:

H2: *Institutional entrepreneurs who believe in the emerging field's attractiveness will have a greater commitment to an emerging organizational field.*

The second belief that we argue is an important driver of commitment is the belief that the institutional entrepreneur's product or service is superior. The characteristic endeavors in which entrepreneurs engage are introducing new production processes, organizational methods, resources, markets (geographical as well as economic), and products (or better versions of existing products). Attracted by the perception of possibly higher rates of return, entrepreneurs invest capital in novel endeavors (Van de Ven and Garud 1989) that are outside the scope of established industry groups and that have the potential to be the start of new industries. Commitment requires an optimistic belief that the new product or service their firm offers is indeed superior. The products and services their firms offer have decisive cost or quality advantages because of innovations in technology, sources of supply, types of organization, and other factors (Van de Ven and Garud 1989). The entrepreneurs believe that the potential profit is large enough to compensate for the opportunity costs of alternatives not pursued (Schumpeter 1934; Kirzner 1973; Shane and Venkataraman 2000). A belief in product or service superiority indicates that the entrepreneur experiences less technological uncertainty in the form of a rival product or service that might gain greater customer acceptance at his or her expense. Thus, we hypothesize that:

H3: *Institutional entrepreneurs who believe that the products or services they offer are superior will have a greater commitment to an emerging organizational field.*

The final belief that is necessary for commitment to the emerging organizational field is the conviction that conditions will change to make the situation more attractive. As market participants, entrepreneurs, according to Kirzner (1979: 5), act on "systematic changes in the information and expectations." They are alert to new opportunities where prevailing prices will not "clear a market" (Kirzner, 1979: 6). They have the capacity to discover these instances of potential disequilibrium that are likely to come into existence in the future. Through "flashes of superior insight," they can see "what is around the corner before others do" (Kirzner, 1979: 8). As Eckhardt and Shane (2003: 339) argue, the entrepreneur "must attempt to foresee the characteristics of future markets to determine *ex ante* if the opportunity has potential value." Optimistic biases (Keynes 1936; Camerer and Lovallo 1999), as we have indicated, thus influence the entry of entrepreneurs into markets at rates exceeding an equilibrium (Gort and

Klepper 1982). What sustains this optimism is the belief that basic conditions that block realization will change. That is, entrepreneurs tend to believe that dynamic, disruptive, exogenous factors will alter the existing economic landscape and change the current equilibrium (Brouwer 1991). Those who commit have confidence that they are able to see these things which afterward will prove to be true (Brouwer 1991). Rather than economic processes in subsequent years being like economic processes in previous ones, they believe that the processes are subject to external shocks, disruptions, and upheavals, which can come from a variety of sources – wars, revolutions, changes in weather patterns, the availability of raw materials, alterations in consumer preferences and tastes, dramatic swings in population, shifts in values, and changes in technology and the role of government toward business (Brouwer 1991). These disruptions can fundamentally alter the way the system works – what products and services are valued and where economic opportunities lie. When the equilibrium changes, these changed conditions can greatly increase the odds that the new product or service offered can be successfully commercialized. Thus, we hypothesize that:

H4: *Institutional entrepreneurs who believe that disruptive, exogenous changes will ultimately take place that will be favorable to the product or service they offer will have a greater commitment to an emerging organizational field.*

Hypotheses 5-6: Actions that Shape Beliefs. Although people intuitively believe that their actions are based on their beliefs, Weick's (1979: 194) discussion of retrospective sensemaking suggests that the opposite is frequently also true, that actions precede beliefs. As Danneels (2003: 560) notes: "enactment implies that taking actions produces cognitions, which then guide further actions." We suggest that the actions to educate key business stakeholders lead institutional entrepreneurs to believe that the organizational field in which they are participating is attractive, that their product or service is superior, and that disruptive exogenous change will take place that will be positive to the endeavors they have undertaken. The more that they act to educate key business stakeholders, the more their own beliefs grow. By engaging in actions to convince key business stakeholders, they firm up their own convictions and build confidence in the rightness of their beliefs. Even if managers are not sure of the potential of the emerging organizational field, they have to act as if they are in their interactions with business stakeholders, and this action is then likely to convince them the opportunity does indeed have the potential they have been claiming to others. The reason for this is that "individuals attempt to resolve inconsistencies between the behaviors they do and the attitudes they hold" (Salancik 1977a: 7), and if behaviors have already occurred, then the only way to resolve inconsistencies is to alter beliefs to match those actions. In trying to educate key business stakeholders, entrepreneurs come to believe in the conditions that justify their continued commitment to the pursuit of an uncertain opportunity, a reasoning supported by the literature on institutionalization and structuration. As Barley and Tolbert (1997: 93) argue, the "web of values, norms, rules, beliefs, and taken-for-granted assumptions" in which people "are suspended" are of people's "own making." "[I]nstitutions are socially constructed templates for action, generated and maintained through ongoing interactions" people have (Barley and Tolbert, 1997: 94). Thus, we propose that actions to educate key stakeholders are likely to influence core beliefs about industry attractiveness, product or service superiority, and disruptive exogenous change. These beliefs in turn affect the entrepreneur's commitment to an endeavor that otherwise may appear foolish. Based on this reasoning, we hypothesize that:

H5: *Taking actions to educate and increase awareness among major business stakeholders influences key beliefs that an opportunity is attractive, that a product or service is superior, and positive exogenous change will take place.*

In established organizational fields, action has a direct effect on producing commitment as well as an indirect or mediated effect through the actors' beliefs (Salancik 1977a). The direct effect results from actions shaping the expectations of others, which then constrain the individual, causing him or her to be committed. In emerging organizational fields, this direct effect is likely to play less of a role because the enterprise as a whole is still struggling for the legitimacy that would make external expectations binding. For this reason, we propose that while the actions taken to educate and make others aware do have the properties that Salancik (1977a,b) says will lead to commitment, the lack of legitimacy causes the committing effect of these actions to occur solely or at least primarily through their impact on the beliefs of the institutional entrepreneur. The following hypothesis states this expected mediation hypothesis:

H6: *Key beliefs (that the emerging field is attractive, the institutional entrepreneur's product or service is superior, and positive exogenous change will take place) mediate the relationship between taking actions to educate and increase awareness among major business stakeholders and commitment to an emerging organizational field.*

METHODS

The setting for our study is energy efficiency and renewable energy (EERE) businesses that have products and services designed to help consumers save or replace traditional forms of energy such as oil, coal, natural gas, and nuclear power. These products and services gain acceptance only at the expense of established fossil fuel and nuclear energy companies. This sector includes manufacturers whose products or services save energy in residential or commercial buildings (e.g., energy efficient windows, lighting components, insulation materials, and appliances) or industrial processes or settings (e.g., process controls, thermostats, heat recovery systems, and ventilators); reduce energy use in commercial buildings or industrial settings (e.g., demand side management programs, energy audits, training and software for energy systems); and/or produce renewable energy or alternate fuel products (e.g., photovoltaic products, wind power systems, and whole tree biomass systems). While many of these EERE businesses are new firms, others are new businesses within larger, established firms. These new businesses within larger firms represent entrepreneurial ventures, and are subject to similar forces that affect startup firms.

Preliminary Study

A preliminary study of these businesses in the early 1990s established that EERE businesses were indeed in a state of "prolonged gestation" (self-citation). They were established but had not taken-off. They had sales and had been in existence for some time but in comparison to substitute products from the established industry sector such as coal and other fossil fuels their sales were relatively small and their ongoing existence still in doubt. They were clearly an emerging as opposed to established organizational field. Our initial study of these businesses was based on 20 in-depth, on-site interviews with owners and managers of EERE firms and responses from 66 managers to a survey sent to 106 of these businesses. When we did this study, it became clear to us that the majority of firms in this sector had not achieved their full growth potential and faced many of the issues characteristic of companies in an emerging organizational field. Some of the factors that kept this sector in this state were relatively low energy prices for conventional fuels starting in the 1980s, a pullback in government subsidies that occurred around the same time, and partially, as a consequence, a relatively low level of consumer demand.

Another key issue was reducing performance uncertainties in products and services and in different parts of the value chain, such as procuring inputs, manufacturing, distribution, marketing, sales, and service. That is, the value chain for this sector was not yet fully developed. An outcome of the preliminary study was the creation of Energy Alley, a trade association aimed at furthering the interests of EERE firms. The current study builds on the first one but represents a more comprehensive attempt to sample the entire EERE sector in a state.

Current Study

Our current study consists of two surveys. The first measures the independent and control variables, including: (1) actions to educate key business stakeholders (during the prior 12 months), (2) the belief that the emerging field is attractive, (3) the belief that the firm offers a superior product or service, and (4) the belief that disruptive exogenous change positive to the emerging field will take place. The second survey measures the dependent variable – commitment. Based on the answers to the first group of questions, we wanted to determine the degree to which the managers of these companies were committed to an identity in the EERE business in a later period. With the aid of Energy Alley, we mailed the first survey to 878 firms that Energy Alley considered to be in EERE in March, 1998. Attempts were made to contact each firm that had not returned the survey after roughly one month. These calls also asked why the survey had not been returned. We discovered that 148 of the firms in the initial sample were not in the EERE business, had moved, had disconnected phone numbers, or were no longer in business. Removing these from the sample yielded a sample size of 730. We received 197 responses for a response rate of 27 percent. However, since we were unable to reach all of the companies represented in the sample, this response rate represents the minimum and the true response rate is probably several percentage points higher.

Like the preliminary study that we carried out in the early 1990s, the 1998 survey showed that managers in this sector overall believed that their firms were vibrant and growing. Thus, their commitment was not to a failing course of action. The firms in our sample employed an average of 283 people and their average sales were $72 million. A few very large firms, though, skew these figures, as more than one-third (36 percent) of the firms in the sample had sales between $1 million and $10 million and a half had sales of $25 million or less. In terms of full- and part-time employees, more than two-thirds (70 percent) employed 50 or fewer people. To address this issue, we ran the analyses two additional ways. First, we used the natural log of size. Second, we removed five values that were greater than three standard deviations from the mean. The results were very similar to those we report below.

Three years later, in the summer of 2001, we mailed a follow-up survey to the 197 managers or company founders who responded to the original survey. As with the first survey, we attempted to contact the respondents that did not return the second survey after roughly one month. We found that 30 of the 197 initial respondents had either sold their businesses or gone out of business. We received 100 responses to the second survey, for a response rate of 60%.

We tested for non-response bias in the second survey. T-tests showed no significant differences on any of the study variables between businesses responding to the second survey and those that responded only to the first survey. When we asked in the telephone contacts why some businesses no longer existed, usually it was because the entrepreneur/founder had changed personal circumstances (for example, retirement). Some sold their businesses, which possibly indicated success (see Bates 2005). While we believe our responses were representative of the businesses involved in this sector in the two time periods and that the responses to the second survey were not biased in favor of survivors, we acknowledge this as a limitation of our study.

We believe our study is illustrative of our theory and hypotheses; it does not fully confirm them and additional work is needed. Nevertheless, we consider our findings to be of interest.

Measures

Table 1 lists the items and scale reliabilities of the dependent and independent variables. Confirmatory factor analysis (using LISREL 8.30) verified that the items and scales for our key independent variables exhibited discriminant validity. The chi-square was not significant (as is desired), the normed fit index was 0.90, the comparative fit index was 0.98, the standardized root mean square residual was 0.052, the goodness of fit index was 0.93, and the adjusted goodness of fit index was 0.90. Scale reliabilities were adequate (Nunnally 1978). The dependent variable, commitment to an emerging organizational field, was operationalized using six items that deal with the level of ongoing and continued commitment managers have toward being in the energy efficiency and renewable energy businesses, including the extent to which they see EERE to be a core part of their product and services.

The fact that we measured the commitment variable a full three years after measuring the independent variables is important. Because we are interested in testing predictors of longer-term commitment, we require a longitudinal approach. If the independent variables in our theory predict commitment three years after they are measured, this is a strong test of our theory.

Actions to educate key business stakeholders is a three-item measure. These actions took place during the 12 months prior to the time of the survey and thus *precede* the beliefs we measure. We originally included another item in this measure, which resulted in a reliability of 0.77, but this resulted in a poorer fit in the confirmatory factor analyses. Rerunning all of our regression analyses using this four-item measure of actions to educate key business stakeholders yields very similar results to those reported here.

Belief that the emerging field is attractive is a four-item measure, while belief in product or service superiority is a two-item measure. Finally, belief in disruptive exogenous change is a three-item measure dealing with the extent that the managers are aware of the issue of global warming and see it as an important concern. While this is only one possible measure of this construct, we believe it is a good one for this industry. Indeed, if global warming is truly recognized as a problem, conditions are likely to change and many of the products and services offered by these businesses would become more valuable.

INSERT TABLE 1 ABOUT HERE

We included several control variables in the analysis, the rationale for their inclusion being that there may be alternative explanations for commitment or the lack of it. Rather than continuing to maintain commitment because of the factors we have hypothesized (actions to educate business stakeholders, belief in emerging field attractiveness, belief in product or service superiority, and belief in exogenous change), the respondents may maintain commitment for economic reasons, including prior business success. Access to capital is another important concern. One reason for failing to maintain commitment to an emerging organizational field is a lack of access to capital (Pfeffer and Salancik 1978; Castrogiovanni 2002). Finally, firms may maintain their commitment because of size. With size comes more resources, and perhaps greater slack, more patience, and more tolerance for failure. We used a four-item measure of prior business success. Our measure of access to capital is a single item: "To what extent is a lack of access to capital an obstacle to the growth of your business?" (using a five-point Likert scale with anchors ranging from "not at all" to "to a great extent"). We measured firm size as the number of full- and part-time employees. We originally planned to also include firm sales as a control, but couldn't as it was correlated at 0.91 with firm size (and had more missing observations).

RESULTS

Table 2 presents the means, standard deviations, and correlations for the variables in our study. Tables 3 and 4 present the regression results to test the main effects and mediation hypotheses. Due to missing observations on one or more variables, the overall sample size is 84. We checked the data to make sure they met the assumptions required of regression analysis. There was no evidence of multicollinearity according to variance inflation factor (VIF) values, and residual plots suggested that heteroskedasticity was not a problem.

INSERT TABLES 2- 4 ABOUT HERE

The first column of Table 3 presents our model without the three belief measures. Actions to educate business stakeholders is a strong predictor of commitment ($p<.01$). Supporting H1, this model accounts for 9 percent of the variance in commitment and is significant ($F=2.815$, $p<.05$). The second column of Table 3 shows the full model including the three belief measures. The full model accounts for 41 percent of the variance in commitment, and the model is highly significant ($F=9.212$, $p<.001$). Two of the belief variables are highly significant predictors of commitment: belief in product or service superiority ($p<.001$), belief in emerging field attractiveness ($p<.001$), while belief in disruptive exogenous change is marginally significant ($p<.10$). These results provide support for hypotheses 2 and 3, and marginal support for hypothesis 4.

To test hypothesis 5 and finish the tests required for the mediation effects (hypothesis 6), three additional models were run (see Table 4), in which each of the three beliefs was regressed on actions to education business stakeholders and the three control variables. The model for belief in emerging field attractiveness is significant (adj. R-square = 0.09; F=2.937, $p<.05$), with actions to educate business stakeholders significant at the $p<.10$ level. Prior business success is also significant ($p<.05$) in this model. The model for belief in product superiority is significant (adj. R-square = 0.08; F=2.757, $p<.05$), with actions to educate business stakeholders significant at the $p<.05$ level. The model for belief in disruptive exogenous change is significant at the $p<.10$ level (adj. R-square = 0.06), with actions to educate business stakeholders significant at the $p<.05$. These results generally support hypothesis 5.

Tables 3 and 4 show that the requirements for mediation are met (Baron and Kenny 1986). The independent variable of actions to influence business stakeholders influences both the proposed mediators (the three beliefs) and the dependent variable (commitment) in the correct direction. The three beliefs affect commitment. And the effect of actions on commitment disappears when the three beliefs are present (see column 2 of Table 3). Thus the three beliefs fully mediate the effect of actions on commitment. In line with theories of commitment (Salancik 1977a,b) and legitimacy (Aldrich and Fiol 1994), these analyses tend to show that the extent to which managers take actions to educate business stakeholders significantly predicts commitment to an emerging organizational field. Beliefs in emerging field attractiveness, product or service superiority, and future disruptive change mediate the effects of actions to educate business stakeholders on commitment.

DISCUSSION AND CONCLUSIONS

Given that it frequently takes a decade or two before businesses take off in uncertain environments, understanding the factors that explain commitment to an emerging organizational field is critical to understanding how successful businesses develop over time. In this paper, we present a theory to explain this commitment. The theory involves both managerial actions and beliefs. Zimmerman and Zeitz (2002: 414) note that "research on the topic of new venture legitimacy is in its infancy," that "legitimacy can be enhanced by strategic actions taken by the new venture; and … such strategic action is particularly important for new ventures." They discuss the taking of proactive steps to change the environment and note that Pfeffer and Salancik (1978) call this process of active construction of the environment *enactment.* In this paper, we have tested such a model in which actions to educate business stakeholders lead to beliefs in emerging field attractiveness, product or service superiority, and disruptive exogenous change. In turn, these factors help build commitment to an emerging organizational field. Our findings connect actions to educate stakeholders, an aspect of institutional entrepreneurship, to these beliefs and to commitment.

Our view of the relationships among these variables is that they relate to each other in a recursive way. Though we did fully test for the reciprocal influence of each variable on the other over time, other than examining the effect of actions and beliefs at one point on commitment at another, we believe that the overall system is a self-sustaining one prone to positive and negative feedback; that is, commitment is likely to feed back on beliefs and affect actions so that each variable reciprocally influences the others over time. These reciprocal influences yield positive or negative momentum that create a sense of progress or stalemate.

To sustain commitment, the perception of "foolishness" is handled by specific actions, the beliefs these actions breed, and the ongoing attachment to the emerging field that the actions and beliefs generate. Our findings indicate that a sense of "foolishness" may start to dissipate if powerful positive cycles come into being based on reciprocal action-belief-commitment influences. We have examined the feed forward elements of the cycle – the effects of actions and beliefs on commitment; additional work is needed on the feed backward elements or how the cycle would work in reverse, how it would operate in the other direction, how commitment would tend reinforce beliefs and actions in an iterative way and generate powerful or negative momentum in driving an emerging field either forward or backward.

According to our proposed theory, actions, beliefs, and commitment reciprocally influence each other. They are the foundations upon which the positive cycles of increasing attachment or disengagement are based. Commitment to an emerging organizational field that otherwise might seem unwise to pursue, grows when entrepreneurs take actions to educate key business stakeholders. In the process, they change their own beliefs about the emerging field and their firms' prospects. The reciprocal influence between action, belief, and commitment can be the start of positive or negative cycles of engagement or disengagement, progress or decay. The approach taken here is somewhat different than the standard industrial organization point of view. The emphasis is on legitimacy which is a function of the reciprocal influences of actions, beliefs, and commitment.

Our research addresses several recent calls by entrepreneurship scholars. Shook et al. (2003: 390) claim that "perhaps the most under-researched aspect of the individual and venture creation is exploitation activities," and they cite only one study that has examined the individual's role of persistence in venture creation activities (by Gatewood et al. 1995). The recent review of the entrepreneurship literature by Busenitz et al. (2003: 298) argues that "the *intersection* between opportunities and enterprising individuals … is central to entrepreneurship theory." Busenitz et al. (2003: 299, 302) further argued that "cognitive … approaches to the study or opportunity identification, evaluation, and response may help us understand how entrepreneurs think and explain their unusual tendency to take bold action" and stated that "since time is an important dimension of the discovery, creation, and exploitation process…, it becomes imperative for researchers to better understand related phenomena." Our work argues that opportunity exploitation has an important temporal dimension in that exploitation can take many years or even decades, and that during this time, a substantial commitment on the part of the individuals involved is required. We take a cognitive approach in proposing an enactment theory that suggests this commitment is driven by a specific type of action necessary to help build a supportive institutional environment and three key beliefs that this action reinforces.

Limitations

There are several caveats with respect to our findings. First, we have tested our hypotheses in a single emerging organizational field – the energy efficiency and renewable energy sector – which may have peculiar features, for instance, an overabundance of idealistic people with unrealizable entrepreneurial ambitions. Additional tests in other emerging fields with other distinguishing characteristics are needed to see how the model generalizes.

Another limitation is that we have surveyed a single respondent from each firm. However, the survey was targeted at the CEO, President, or founder of these firms, the major decision-maker, whose long-run commitment is needed. In addition, we specifically asked respondents who were not CEOs, Presidents, or founders to refer to the main business unit for which they were responsible when answering the survey questions. Our respondents thus are the “key informants” (Huber and Power 1985) most knowledgeable about the types of issues we asked about.

Future research might also investigate the effectiveness of the actions entrepreneurs take to educate key business stakeholders. Although effective action is not a prerequisite for our theory, and commitment is likely to be intensify even if actions are ineffective (because actions bind regardless of their effectiveness), from a practical standpoint it is clearly desirable to discover the types of actions that are more effective in building the institutional infrastructure required for success. Individuals who take ineffective action and nevertheless become highly committed to an uncertain opportunity should be much more likely to end up failing due to a lack of legitimacy and an unsupportive institutional environment. The productive capacity such individuals represent could be much more fruitfully applied elsewhere.

To repeat our main argument, emerging organizational fields require managers and firms to act on the basis of beliefs, for they are dealing with uncertainties and “are navigating, at best, in an institutional vacuum of indifferent munificence” (Aldrich and Fiol 1994: 645). Even if there is some evidence to support the belief that the businesses in which they are participating ultimately will flourish, this evidence is partial and there are many unknowns. To some degree, what the participants in such a sector are doing may be considered foolish. They have to have an optimistic bias. They require “animal spirits.” In a period of prolonged gestation, they lack a supporting institutional environment to legitimize their actions. We have shown in this paper that their commitment is driven by a specific set of actions and cognitions. In particular, actions to educate business stakeholders are likely to lead to beliefs in emerging field attractiveness, superiority of product or service, and coming disruptive exogenous change, and these in turn are essential to sustaining commitment to an emerging organizational field.

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FIGURE 1
A THEORY OF ENACTMENT: FACTORS AFFECTING COMMITMENT TO AN EMERGING ORGANIZATIONAL FIELD

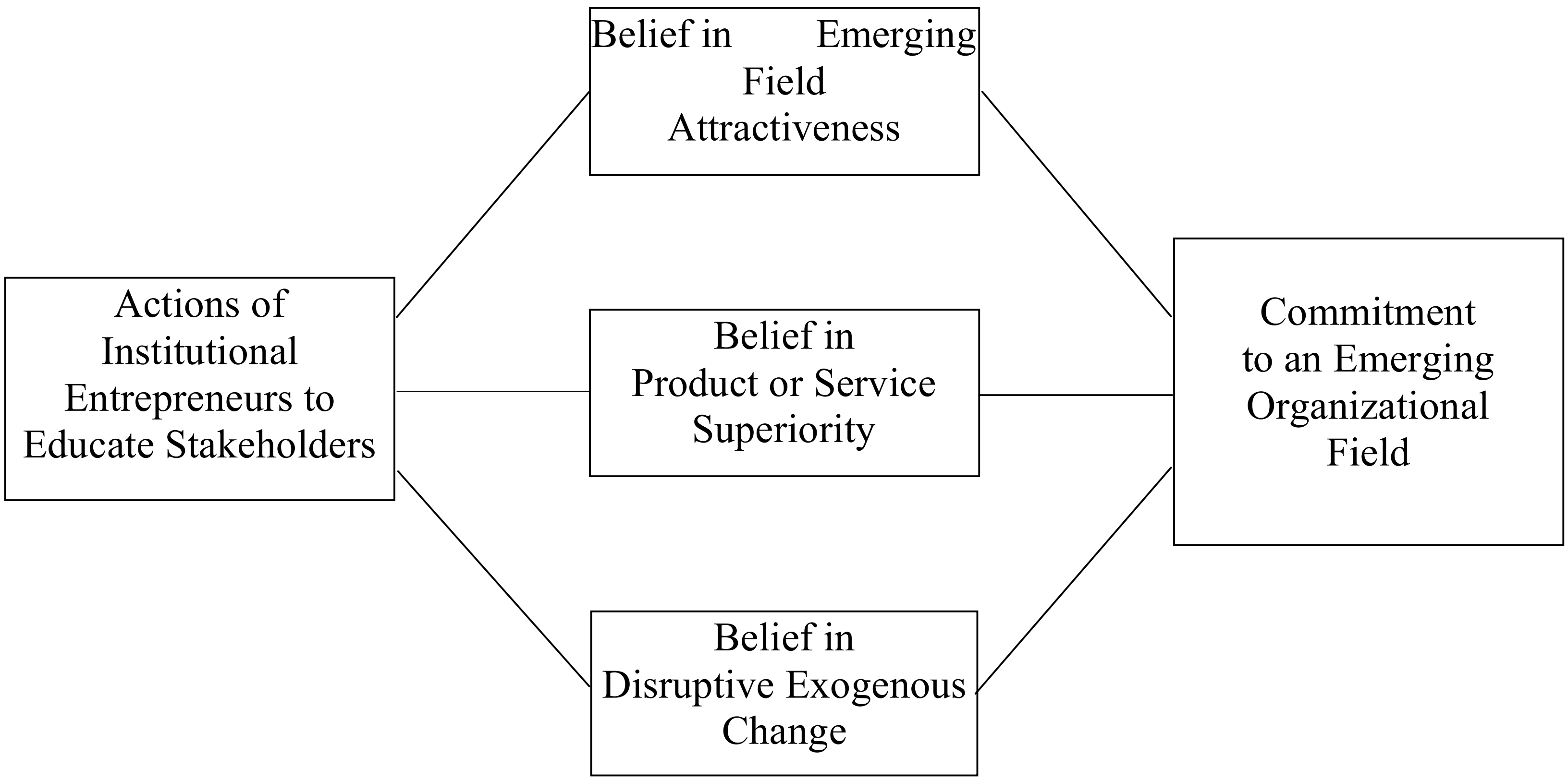

TABLE 1
ITEMS USED TO MEASURE
KEY THEORETICAL AND CONTROL VARIABLES

Variable and Items	Alpha
Commitment to an Emerging Organizational Field (6 items) 1. To what extent do you consider your business to be in the energy efficiency or renewable energy industry? 2. To what extent is your business committed to offering energy efficiency or renewable energy products? 3. To what extent is energy efficiency or renewable energy a major part of your business's long-term plan for growth? 4. To what extent is your business based on a long-term environmental commitment? *(1=Not At All, 2=To a Limited Extent, 3=To Some Extent, 4=To a Considerable Extent, 5=To a Great Extent)* *How strongly do you agree or disagree with the following statements?* 5. Our core technology is associated with or contributes to energy efficiency or renewable energy. 6. Energy efficiency or renewable energy is a standard feature of our businesses' major products or services. *(1=Strongly Disagree, 2=Somewhat Disagree, 3=Neither Agree Nor Disagree, 4=Somewhat Agree, 5=Strongly Agree)*	.89
Actions of Institutional Entrepreneurs to Educate Stakeholders (3 items) *Over the last 12 months, to what extent did your business ...* 1. Take actions to directly increase customer awareness of your products and services? 2. Educate suppliers, distributors, and/or retailers about your products and/or services? 3. Educate private interest groups (e.g., consumer groups or environmental groups) about the benefits of your products and services? *(1=Not At All, 2=To a Limited Extent, 3=To Some Extent, 4=To a Considerable Extent, 5=To a Great Extent)*	.67
Belief in Emerging Field Attractiveness (4 items) *How strongly do you agree or disagree with the following statements?* 1. Demand for the products/services of your principle industry has been growing and will continue to grow. 2. The investment or marketing opportunities for firms in your principal industry are very favorable at the present time. 3. In your industry, sales have been growing and are likely to grow. 4. Capital expenditures in your business's principal industry have been growing and will continue to grow. *(1=Strongly Disagree, 2=Somewhat Disagree, 3=Neither Agree Nor Disagree, 4=Somewhat Agree, 5=Strongly Agree)*	.82

TABLE 1 (continued)
ITEMS USED TO MEASURE
KEY THEORETICAL AND CONTROL VARIABLES

Variable and Items	Alpha
Belief in Product or Service Superiority (2 items) *How strongly do you agree or disagree with the following statements?* 1. Our product or service is the most energy efficient in its class. 2. Our product or service is the most advanced renewable energy product or service of its type. *(1=Strongly Disagree, 2=Somewhat Disagree, 3=Neither Agree Nor Disagree, 4=Somewhat Agree, 5=Strongly Agree)*	.81
Belief in Disruptive Exogenous Change (3 items) 1. To what extent is concern about global warming an important concern? *(1=Not At All, 2=To a Limited Extent, 3=To Some Extent, 4=To a Considerable Extent, 5=To a Great Extent)* Please rate your awareness of the following public policy issues (mark an X in the low, medium, or high box). Then please rate their importance (either because they are a threat or because they are a potential opportunity) to your business using the same scale. Global warming	.72
Prior Business Success (4 items) *Compared to other businesses in your principal industry, over the past two years, the …* 1. Overall performance and success of your business was 2. Sales volume for your business was 3. Cash flow in your business was 4. Market share for your business was *(1=Very Low, 2=Low, 3=Average, 4=High, 5=Very High)*	.84

TABLE 2
MEANS, STANDARD DEVIATIONS, AND CORRELATIONS

	Mean	Std. Dev.	1	2	3	4	5	6	7
1. Commitment	3.94	0.86	1.00						
2. Belief in Superiority of Product or Service	3.50	1.06	0.52**	1.00					
3. Actions of Institutional Entrepreneurs to Educate Stakeholders	2.96	1.04	0.29**	0.29**	1.00				
4. Belief in Disruptive Exogenous Change[a]	0.01	0.78	0.22*	0.16	0.21*	1.00			
5. Belief in Emerging Field Attractiveness	3.98	0.68	0.46**	0.20	0.26**	-0.06	1.00		
6. Prior Business Success	3.32	0.79	0.01	0.05	0.20	-0.11	0.26*	1.00	
7. Size (# of Employees)	209	907	-0.02	-0.02	0.17	0.16	-0.04	0.05	1.00
8. Lack of Capital	2.80	1.26	0.19	0.22*	0.07	0.11	0.08	-0.31**	-0.13

a Note: This variable is the mean of three standardized variables.
* p<0.05
** p<0.01

TABLE 3
REGRESSION RESULTS

Independent Variable	Dependent Variable: Commitment	
Actions of Institutional Entrepreneurs to Educate Stakeholders	.32**	.10
Belief in Emerging Field Attractiveness		.33***
Belief in Product or Service Superiority		.43***
Belief in Disruptive Exogenous Change		.15†
Prior Business Success	-.01	-.09
Firm Size (Number of Employees)	-.06	-.04
Extent to Which Lack of Capital is an Obstacle	.16	.01
Adjusted R^2	.09	.41
F	3.157*	9.212***

Note: Values are standardized beta coefficients.
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

TABLE 4
REGRESSION RESULTS

Independent Variable	Dependent Variable: Belief in Emerging Field Attractiveness	Dependent Variable: Belief in Product or Service Superiority	Dependent Variable: Belief in Disruptive Exogenous Change
Actions of Institutional Entrepreneurs to Educate Stakeholders	.21†	.26*	.25*
Prior Business Success	.24*	.05	-.12
Firm Size (Number of Employees)	-.07	-.04	.13
Extent to Which Lack of Capital is an Obstacle	.15	.21†	.06
Adjusted R^2	.09	.08	.06
F	2.937*	2.757*	2.219†

Note: Values are standardized beta coefficients.
† p < .10
* p < .05
** p < .01
*** p < .00