

BRICOLAGE AND RESOURCE-SEEKING: IMPROVISATIONAL RESPONSES TO
DEPENDENCE IN ENTREPRENEURIAL FIRMS

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We present a general theory of entrepreneurs' improvisational responses to resource dependence relations. A test of hypotheses derived for dependence on one type of resource – indispensable employees – supports the theory. Entrepreneurs respond to dependence in ways that emphasize either bricolage (making do with resources at hand) or resource seeking, and their choices influence the emergent design of firms and their human resource practices.

The resource dependence perspective has benefited from continued and extensive use for more than 20 years (Pfeffer & Salancik 1978). Despite negative empirical findings and powerful theoretical critiques (Donaldson 1995; Zajac 1988; Zajac & Westphal 1996), “resource dependence” persists as a familiar concept in organization theory (Aldrich 1999: 62-67). However, it has achieved only a portion of its early promise. Currently, use of the perspective typically involves the application – frequently ad hoc – of a few power-dependence themes developed by Emerson (1962) and Blau (1964). Authors often use the concept of resource dependence as a signal that they are taking a political or power perspective on organizations (Lincoln 1984), rather than because it fits the logic of their argument. Researchers studying resource dependence have typically focused on large and established organizations, thus hampering the cumulative development of the perspective.

In a parallel development, research on the management of dependencies that result from resource acquisition in small and new organizations has proceeded without much concern for the propositions of the resource dependence perspective. Even though resource acquisition is a common theme in entrepreneurship research, investigators have not taken advantage of the resource dependence perspective’s potential to explain the behavior of entrepreneurial firms’ founders. We believe that a closer examination of how founders respond to resource dependence relations can make important contributions to the perspective and to our understanding of entrepreneurship.

In this paper, we investigate responses to resource dependencies by founders of entrepreneurial firms, which we define as small, young firms that are attempting to grow. We combine ideas from the resource dependence perspective with insights from organizational improvisation theory (Crossan 1998; Moorman & Miner 1998a; Weick 1998). We emphasize

the enacted environments in which entrepreneurs build firms and examine the improvisations they create in coping with the actors on whom they depend for resources (Weick 1979; Weick 1995). Following Weick (1993b), we also show how entrepreneurs' improvised responses to resource dependence relations shape the structure and processes – the emergent designs – of their firms.

Our paper is structured in four parts. First, we discuss the limitations of the resource dependence perspective as it has been applied to established firms, and consider its appropriateness for entrepreneurship theory. Second, we integrate the resource dependence perspective with insights from organizational improvisation theory to develop hypotheses about one type of resource (employees), and one type of dependence (on “indispensable” employees). Third, we report on a study that tests these hypotheses. Finally, we discuss the implications of our findings for the resource dependence perspective, improvisation theory, human resource management, and the resource-based view of firms.

The Resource Dependence Perspective Applied to Established Organizations

Most empirical researchers using a resource dependence framework have studied only large and established organizations in which many resource-generating relations are already firmly in place. Studying such established firms has stunted the development and testing of the resource dependence perspective in two ways. First, by focusing on relatively large and stable organizations, researchers have restricted their study to firms where ways of dealing with dependence relations are already taken for granted and embedded in day-to-day routines and organizational structures. Scholars have given little attention to the emergence of the structures and routines generated to manage new dependencies within growing firms. Studying

entrepreneurial firms that are trying to manage emergent dependencies will allow researchers to develop and test the dynamic aspects of the resource dependence perspective.

Second, a fundamental insight of the resource dependence perspective is that the environment that matters most for decision making is the one represented in decision makers' perceptions of it (Pfeffer & Salancik 1978). Whereas the objective environment plays a major role in shaping outcomes (Aldrich 1999: 23), the enacted environment plays a major role in shaping organizational decisions and actions (Weick 1969). Notwithstanding early admonitions (Aldrich & Mindlin 1976), the majority of empirical studies have ignored this distinction. Instead, many scholars adopting a resource dependence perspective have either relied solely on objective measures of resource environments or else have measured decision makers' subjective perceptions of environments, and then used these measures as proxies for objective measures.

Such research procedures may be appropriate in studies of relatively established organizations, because a variety of forces engender homogeneous perspectives and promote a close match between objective and subjective measures in them (Hannan and Freeman 1984). As Salancik and Pfeffer (1978) noted, established organizations tend to have agreed-upon ways of looking at the world. Their leaders tend to be drawn from relatively similar backgrounds and they have undergone similar socialization experiences. In addition, larger organizations are more likely to have departments that specialize in assessing specific aspects of their environments, which may lead to more consistent appraisals of environmental contingencies.

Among smaller and younger organizations, we have fewer reasons to expect homogeneity in founders' perspectives. Between-organization variation is greatest at the startup stage, before selection forces have made their weight felt and marginal, innovative, and unlucky organizations have been eliminated (Aldrich, 1999: 75-81). In studying the behavior of founders, we are led to

study environments as entrepreneurs describe them. The perceptions are important in themselves, rather than as proxies for some more objective underpinning. Founders' beliefs about their environments are, in essence, propositions about the state of the world. They base their actions on those propositions, and thus our comprehension of entrepreneurial behavior requires that we understand how entrepreneurs perceive the world.

Resource Dependence and Entrepreneurship

The resource dependence perspective builds directly upon exchange theoretic notions of power and dependence (Blau 1964; Emerson 1962). We draw on exchange theory in this section to describe how resource dependencies might be generated in entrepreneurial firms. In the following section, we draw on improvisation theory to develop propositions about how entrepreneurs respond to the dependencies they face.

The resource dependence perspective “proceeds from the indisputable proposition that organizations are not able to internally generate either all the resources or functions required to maintain themselves, and therefore organizations must enter into transactions and relations with elements in the environment that can supply the required resources and services (Aldrich & Pfeffer 1976, p.83).” The core of the theory focuses on how the dependence relations between firms and their resource suppliers shape firm behaviors and outcomes. We suggest that the “indisputable proposition” is particularly appropriate for start-up organizations, which typically begin with very few internal resources and which have relatively malleable organizational processes and structures (Aldrich 1979; Hannan & Freeman 1984).

Entrepreneurs typically must engage in substantial resource gathering activities to build their firms. Consider Stevenson et al.'s influential definition of entrepreneurship, built on (Schumpeter 1934), as “the pursuit of opportunity without regard to resources currently

controlled” (Stevenson, Grousbeck, Roberts, & Bhide 1999; Stevenson & Jarillo 1990).

Entrepreneurs perceive opportunities, spurring them to acquire or gain control over whatever resources they require to build an organization that exploits the opportunities. In Reynolds’ (1994) list of primary gestation activities that precede the birth of new firms, more than two-thirds involve gathering or redeploying various resources. Nonetheless, most founders begin with less than \$10,000 in total capital and fewer than five employees (Aldrich 1999).

In Stevenson’s perspective, both the opportunity and the decision to pursue it are apparently independent of the resources an entrepreneur controls. However, the very process of pursuing opportunity and gathering required resources creates dependencies – on sources of finance, key customers, cooperative suppliers, government agencies, and employees, who thereby become stakeholders in the firm. Indeed, a substantial entrepreneurship literature has focused on acquisition of specific resources; for example, bank loans, venture capital and public equity (Higgins & Gulati 1999; James 1987; Lerner 1995; Sahlman 1990). Less emphasis has been given to the dependencies thereby created (Gompers 1995; Petersen & Rajan 1994).

Two factors combine to increase the level of dependence in relations: the degree to which an entrepreneur values a resource that is provided, and the difficulty of replacing particular resource providers (Emerson 1962). In exchange theory terms, the more person A values something that is available from person B, and the fewer the alternative sources person A has for what person B provides, the greater A’s dependence on B, and the greater B’s power over A. In our application, the more an entrepreneur values what a resource provider supplies, and the fewer the alternative sources for the resource, the greater an entrepreneur’s dependence. Dependence reaches an extreme when entrepreneurs have only a single source for a resource and they believe it to be essential.

Entrepreneurial organizations are much more likely than established firms to depend upon a single source for any particular resource. Initially, each resource provider with which an entrepreneur does business is a unique source simply by being first. For example, in some industries, the first customer relationship a firm develops initially accounts for its total revenues. In the early days, firms are also likely to depend on a single supplier relationship for essential materials or services. Small firms are also more likely to have only a single brand or product, and therefore to depend on a single market segment. Single product start-up firms in regulated markets may depend on a single regulatory body for legal sanction. In addition, start-up firms face limited access to both debt and equity markets (Berger & Udell 1994; Hillier & Ibrahim 1993; Sahlman 1990). A close relationship with a local banker might be an entrepreneur's only source of outside funds. In many start-up firms, the withdrawal of a single resource provider – for example a major customer, the local bank loan, or a key employee – might have disastrous results.

Entrepreneurs' Potential Dependence on Employees

Studying dependence on employees in entrepreneurial firms is appropriate for two reasons. First, because human resources can never be fully or permanently acquired by an organization, firms face permanent uncertainty about and potential dependence upon particular employees. Second, the largest one-third of one percent of all firms (approximately 15,000 firms), ranked by number of employees, accounts for slightly less than half of all employment in the U.S. In contrast, the largest (approximately) 15,000 corporations, ranked by assets, control over 88% of total corporate assets, totaling about \$23 trillion of \$26 trillion in 1995 (I.R.S., Census Bureau). Thus, the overall model in large firms for creating value is much more

dependent on human resources than in small firms, making small firm employment relations a good context for exploring responses to dependence.

Following the exchange theoretic definition of dependence, we define dependence on an employee as a circumstance in which an entrepreneur views an employee as both valuable and hard to replicate or replace. Employees are valuable if their departure from a firm disrupts its operations and create substantial performance problems. Stories of individual technical gurus who appear indispensable to the success of major technology companies are well known, such as Lotus Notes designer Ray Ozzie or the "Woz" at Apple computer. When IBM was in the process of purchasing Lotus, a continuing issue was "how will Ozzie react?"

We believe such anecdotes capture the essence of the more commonplace circumstance of dependence relations between entrepreneurs and the early employees on whom they rely while building their firms. Unlike larger firms, small new organizations frequently have little or no redundancy across roles. It is common for entrepreneurial firms to employ a single key technology leader or visionary. Moreover, for any important task, there is often only one person with appropriate skills within a small firm. If only a single incumbent holds a job, entrepreneurs have no comparative standard for performance or for what activities the job should entail. Jobs with single incumbents may therefore be more likely to evolve to idiosyncrasy in such a way that the entrepreneur becomes increasingly dependent on the incumbent employee (Miner 1987; Miner 1990).

We suggest that when entrepreneurs are concerned about the damage indispensable employees might cause by leaving, they respond in ways that have important implications for the firm as a whole. More specifically, we argue that entrepreneurs' responses to experiences of dependence affect the overall employment practices that young firms adopt. Concerns over

potential dependence lead some entrepreneurs to pay inordinate attention to a few ostensibly indispensable employees. They build employment practices affecting all employees around responses to dependence on a few, and these employment practices have important consequences for a firm and its employees

THEORY AND HYPOTHESES

Entrepreneurs improvise – they simultaneously plan and execute their responses to the dependence relations that emerge in the process of attempting to build new firms. The strategies they enact are shaped by their perceptions of the resource markets that underlie their dependencies. In turn, these improvisations affect several important outcomes, such as the degree of conflict among stakeholders. In this section, we draw on organizational improvisation theory to develop a series of hypotheses about how entrepreneurs respond to dependence and how these responses shape their firms.

Improvisation and Responses to Dependence

Entrepreneurs have little time to plan in advance for the emergence of dependence relations. Instead, they respond to new contingencies with improvised actions, making decisions and implementing them as the dependencies arise. As Moorman and Miner (1998a) noted, improvisation involves the “convergence of planning and execution,” when the time between conceiving an action and carrying it out becomes extremely short. Similarly, Weick argued that people who build organizations are continually improvising. They follow a process that “is more emergent, more continuous, more filled with surprise, more difficult to control, more tied to the content of action, and more affected by what people pay attention to than are the designs implied by architecture (Weick 1993a, p. 350).” Because the period of time for taking actions is so

compressed, founders of new ventures have little time to work through alternative scenarios and must instead continuously improvise as they proceed.

Improvised Responses

We draw on improvisation theory to describe two strategies available to entrepreneurs who are improvising responses to the dependence relations they face. One involves working with available resources and the other involves seeking new resources.

Bricolage. A common correlate of improvisation is *bricolage*, or making do with whatever resources are at hand (Baker & Miner 2000; Levi-Strauss 1967; Moorman & Miner 1998b). *Bricolage* may include at least three different sorts of responses, each of which requires making do with available resources, rather than seeking new ones. First, entrepreneurs may do nothing in response to dependencies. With all of the ambiguities and work involved in building a new firm, entrepreneurs may decide simply to ignore some dependence relations. Second, entrepreneurs may decide to de-emphasize parts of the business that are dependent on a single resource provider, and to emphasize other parts. Third, entrepreneurs may focus on trying to reduce the uncertainty in relationships with single providers of resources, such as vendors or customers, by adopting tactics to make interruption of resource flows less likely. Entrepreneurs may reduce uncertainty in exchange relations by any tactic that makes the relation more valuable and therefore less likely to be breached by the resource supplier.

Resource-Seeking. Entrepreneurs can also reduce dependence by finding additional or alternative suppliers, thus increasing the resources at hand. Pfeffer and Salancik focused on this mechanism: “Given that the organization’s vulnerability derives from dependence on single exchanges, the most direct solution is to develop an organization which is dependent on a variety

of exchanges and less dependent on any single exchange” (Pfeffer & Salancik 1978, p.109). We label this the “resource seeking” strategy, because it focuses on seeking new resource providers.

Choosing strategies. Resource-seeking and bricolage responses are not necessarily mutually exclusive, and we expect that many entrepreneurs will utilize some combination of them across types of resources. Entrepreneurs may use different responses simultaneously, such as using *bricolage* in financing and technology licensing, but resource seeking in marketing. However, over time, as entrepreneurs develop familiar and well understood routines (Aldrich 1999, pp. 140-150; Nelson and Winter 1982), we expect them to follow one consistent strategy with regard to any particular type of resource. Their choice will be influenced by their assessments of local circumstances and options with regard to that resource. Growing confidence in one strategy leads to an increasing likelihood of its use, and others’ expectations concerning the preferred strategy reinforces the likelihood that it will be used.

Perception of Markets and Improvisation of Responses

We propose that entrepreneurs will make assessments of the environmental conditions that underlie their dependencies, and attempt to manage dependency relations by utilizing strategies that fit their assessments of the resource environment and options. Because our focus is on environments in which resource exchanges take place, we characterize the environments in which entrepreneurs assess their circumstances and options as “markets.” We focus on two situations: (1) markets are perceived to exist, versus (2) markets are perceived to not exist.

Situation 1: A market is perceived to exist. Entrepreneurs who perceive that they have access to a market for the resource underlying a dependence relation will be more likely to focus on resource-seeking strategies in response to dependence. Some suppliers of resources are valuable but, in principle, can be replaced because a market exists in which an effectively identical

resource can be acquired. If such a market exists, it would be possible to establish multiple relationships with multiple suppliers in the market. It will also be possible to find a replacement, albeit with some difficulty and additional expense, if the current relationship comes to an end. If entrepreneurs believe that it is possible, in principle, to find replacement suppliers, then they can adopt a resource-seeking strategy.

Situation 2: No market is perceived to exist. Entrepreneurs who perceive that they do not have access to a broader market for a resource underlying a dependence relation will be more likely to focus on *bricolage* in response to dependence. Some suppliers of resources are both valuable and hard to replace. If entrepreneurs believe that a resource is unique, and there is no way to replicate an exchange relation in an acceptable time frame, then a resource-seeking strategy is not viable. For example, a customer might be unique. One small firm at which we conducted interviews built its business around selling to one part of the U.S. government, and has been unable to find any other customers for its products. Of course, the seemingly impossible task of finding an apparently non-existent resource may not stop entrepreneurs from choosing it.

Some employees are seen as valuable and hard to replicate because of characteristics and contingencies that are unique to the firm and their evolved roles. As a result, the incumbent employee is seen as uniquely positioned to make distinctively valuable contributions to the firm (Baker & Aldrich 1994; Miner 1987; 1990; Williamson, Wachter, & Harris 1975). They were in the right place at the right time, and are seen to know things or have skills that no one else knows or can easily learn (Crozier, 1964). Non-trivial human capital has developed through learning-by-doing that is specific to the employee's role (Williamson et al. 1975; Williamson 1981). The job has become "idiosyncratic" (Miner 1990). Potential replacements for the incumbent, with

similar training but lacking experience at the entrepreneur's firm, are not equivalent to the indispensable employee, and no labor market exists for the incumbent's skills.

We summarize our argument regarding responses to perceived dependence in the following hypothesis:

Hypothesis 1: Entrepreneurs who perceive that they have access to a labor market for the skills of an employee on whom they are dependent will be more likely to respond to dependence by trying to find someone with the same skills (resource-seeking response), rather than doing nothing, de-emphasizing part of the business, or trying to make sure the employee doesn't want to leave (bricolage response).

Consequences of Resource-Seeking and Bricolage Responses

We propose that several important organizational behaviors and outcomes are associated with the choice of resource seeking (versus bricolage) responses to dependence: resource buffering, resource squandering, stakeholder conflict, and delegating dependency management to others.

Resource buffering. We expect entrepreneurs who engage in resource seeking strategies to resolve their dependency on single sources by establishing exchange relations with additional resource providers. One consequence of resource-seeking strategies is that they will sometimes lead entrepreneurs to establish redundant exchange relations before the size or volume of their business requires or can easily support this resource buffering. For example, entrepreneurs concerned about dependence on a single customer may sell deals to new customers before their firms are capable of delivering on a new contract.

Many small new firms operate under tight financial constraints that complicate the decision to add to staff. Good reasons often exist for not hiring new employees until after the

workload strongly demands it. For example, some managers develop a lean culture, in which employees understand that they need to do whatever it takes to get the work done (Hochschild 1997). Hiring at the first sign of need may undermine a lean culture, reducing employees' inclinations to find solutions using the resources at hand. Moreover, if a firm hires in response to early signals of too heavy a workload, employees may learn that the people who put on a better show of being overworked get help more quickly than those who just get the job done.

Nonetheless, we expect that entrepreneurs dealing with dependence on employees via a resource seeking strategy may decide to hire new employees before pure workload considerations justify them.

Hypothesis 2: Entrepreneurs who emphasize resource-seeking responses will be more likely to add to staff prior to when pure workload considerations demand a new hire.

Resource squandering. Founders who improvise through resource seeking are likely to resolve dependencies without shopping around. Therefore, they pay relatively high prices for resources or concede to terms that are especially lucrative to exchange partners (Shepard & Douglas 1999). By contrast, entrepreneurs as *bricoleurs* work with the resources at hand and thus will not rush to acquire new resources before the workload demands them. They will therefore be less likely to overpay in spot market transactions, or to have to offer special inducements to exchange partners. Whereas a *bricoleur* resorts to bootstrapping, a resource-seeking founder pursuing additional financing too early may sell equity at a cheaper price (Sahlman 1988), or agree to onerous bank covenants.

Entrepreneurs who use resource-seeking strategies and who find themselves in dependence relations with employees are likely to adopt aggressive measures to manage the dependence. They may choose to offer special "recruitment deals" to potential employees,

including unusually large stock option grants, extra weeks of vacation, signing bonuses, promises of early salary reviews, and a wide variety of perks. By contrast, entrepreneurs who emphasize *bricolage* in their improvisations will tend to make use of resources they already own, even when these are not ideal, but are simply good enough to get the job done (Harper 1987; Weick 1993a).

Hypothesis 3: Entrepreneurs who emphasize resource-seeking responses will be more likely to offer special recruitment deals than will entrepreneurs who adopt bricolage responses.

Stakeholder conflict. Founders who offer special deals and inducements to new resource providers may generate conflict with existing stakeholders. For example, early equity investors often resist or contractually prohibit later rounds of financing that allow new investors to invest at lower firm valuations. Similarly, customers bound by early contracts are likely to be unhappy if an entrepreneur offers lower prices to attract new customers.

With regard to employees, special recruitment deals may violate current employees' expectations of norms of universalism in the workplace (Aldrich & von Glinow 1992; Halaby 1986). They can cause resentment and dissension over such "star" treatment (Austin & Berglas 1997), as well as a sense of employee "haves" and "have-nots" (Baker and Aldrich 1994). Disgruntled employees who compare their own treatment unfavorably to people who are newly recruited might severely degrade a firm's culture of cooperation. Employees who feel poorly treated are unlikely to engage in organizational citizenship behavior (Organ 1990).

Founders' typical strategies for dealing with dependence in employment relations may also have an impact on employees' likelihood of complaining. *Bricoleurs* who do nothing in response to dependence, or who take actions to make the exchange relation more valuable to the

exchange partner, are unlikely to generate conflict among stakeholders. We expect entrepreneurs improvising bricolage responses toward indispensable employees to embrace a variety of practices aimed at minimizing overall employee dissension and complaints. Because small and growing firms are so often strapped for financial resources, we expect heavy reliance on creating a culture of belonging and fairness. By contrast, resource-seeking improvisation may lead to conflict between founders and employees.

Hypothesis 4a: Entrepreneurs offering recruitment deals will be more likely to experience employee complaints of unfair treatment,

Hypothesis 4b: Entrepreneurs emphasizing resource-seeking responses will be more likely than those emphasizing bricolage strategies to experience such complaints.

Delegation of dependency management to others. One way to deal with dependencies on particular sorts of resource providers is to delegate the management of those dependencies to specialists. For example, dependencies on regulators might be managed by hiring an attorney, and dependencies on too few customers might be managed by hiring sales and marketing specialists. It is not uncommon for firms to bring in new CFOs as a prelude to trying to tap public equity markets and reduce dependencies on financial intermediaries.

If founders delegate the management of dependencies, they risk losing control over whether the specialist will use bricolage or resource-seeking strategies. For example, CFOs can focus on raising money, but they can also focus on control activities, and emphasize efficiency and parsimony in the use of funds. Because initial delegation is likely to be to an individual, rather than to a fully-staffed department, it is unlikely that the resource specialist will be able to engage fully and equally in both resource-seeking and bricolage strategies. Thus, one strategy or the other is likely to become the focus of the delegated responsibilities.

The consequences of delegation depend upon the professional reference group of the specialist and accepted practices within that group. In one firm we studied, the three finance professionals all had backgrounds as division controllers in larger firms, and they focused on helping line managers conserve financial resources. The CEO eventually realized that as part of his attempt to focus on growth, it would be useful to replace the CFO with someone experienced in raising and spending money. The focus of delegated responsibilities will also depend on the perceived demands of the situation, and the perceived individual incentives that exist for the resource specialist to either conserve resources or build a larger resource base.

Traditional notions of HR professionals as managers of employee culture or as employee advocates might lead us to expect that the presence of an HR specialist would lead firms toward adopt practices encouraging employees to stay. However, in firms that are attempting rapid growth, we expect that HR specialists will be more likely to focus on recruitment activities. When small firms start to grow, they cannot typically expect more work from their already hard-pressed employees, and so growth in sales or service has to come via workforce additions. Little systematic evidence exists regarding the early activities of the people to whom HR responsibilities are first delegated in entrepreneurial firms. The limited evidence available suggests that resource-seeking activities – in the form of a focus on employee recruitment – tend to crowd out other HR activities and functions in entrepreneurial firms (Aldrich & von Glinow 1992; Bamberger, Bacharach, & Dyer 1989; Kotter & Sathe 1978; Macht 1998; McEvoy 1984).

Hypothesis 5: The presence of an HR specialist will be positively associated with a greater likelihood of resource-seeking responses to dependence, of hiring to avoid dependence, of offering special recruitment deals, and of experiencing employee complaints of unfairness.

Summary. Entrepreneurs respond via improvisation to dependence, emphasizing resource-seeking or bricolage strategies, contingent on their assessments of the resource markets in which their firms are embedded. These improvisations shape firm practices with regard to how resources are used. In contrast to bricolage strategies, resource-seeking responses encourage buffering resources against the potential loss of a single provider, the potential squandering of resources through overpaying, and the creation of conflicts among stakeholders. Entrepreneurs may lose some control over their response strategies when they delegate responsibility for managing dependencies to resource specialists, thus creating another form of dependency for them.

METHODS

We gathered data through lengthy structured interviews and questionnaires administered to the founders of entrepreneurial (young, small, attempting to grow) firms, creating detailed histories of firm's employment experiences and practices, along with a variety of demographic information about the founders. We supplemented these data with information published in traditional and electronic sources.

Sample

Rather than attempt to simultaneously measure subjective assessments and objective characteristics of resource environments, our strategy was to measure subjective assessments, and control for variation in objective resource characteristics through sampling. Thus, our sampling criteria were chosen to limit the effects of exogenous industry and geographic characteristics such as labor markets, technology, and culture. To render objective variation in labor market conditions moot, we attempted to control for labor market conditions. We wanted a sample of firms facing a very similar objective resource environment. We targeted

entrepreneurial (small, young, attempting to grow) firms in North Carolina in industries characterized by a high percentage of employees educated in scientific and technical fields.

We created a list of North Carolina firms with the following profile: a high percentage of technical employees, growing or attempting to grow (to control for one aspect of strategy), not a subsidiary of another firm, founded recently enough that the founder feels comfortable answering questions about the firm's beginnings, no more than 500 employees, privately held (to control for one aspect of access to financial resources) and still run by a founder from whom we could gather data. We focused on two industry segments with relatively large populations of firms in the Research Triangle area: Information Technology and Pharmaceuticals/Biotechnology.

We were not trying to estimate the distribution of dependence on indispensable employees across firms. Rather, our goal was to examine the effects of dependence on employment practices and other outcomes. We therefore created a purposive theoretical sample of firms in industries in which dependence experiences would be common. We chose this population because we expected that entrepreneurial dependence on employees would be relatively common, given the very low levels of unemployment among technical workers in this labor market during the last fifteen years and the rapidly changing state of the art in technical fields. The variety of technical skills utilized and the rapid change in the state of the art of knowledge in both IT and Biotech/Pharmaceuticals made it very likely that a limited number of individuals will be the sole bearers of crucial skills and knowledge within these mostly small firms.

Using entrepreneurship booster group and trade association membership lists, along with various government records and local business publications, we identified approximately 1400

candidate firms. We screened these firms against the target profile by telephone and email, by reading local magazines and newspapers, and by searching the Web. Many firms turned out to be subsidiaries of a larger firm, to have no founder currently involved, to have no desire for growth, to have no founder who felt comfortable answering questions about the firm's beginnings, or to have gone out of business.

After screening, we had a list of 137 firms for which we had some verification that they fit the profile. Of the 137 firms, 14 explicitly refused to participate, although we then convinced 5 of these to provide at least partial data, reducing the number of full refusals to 9. Another 26 entrepreneurs initially agreed to participate, but were unable to find the time during the 15 months we attempted to collect data from them. Thus, during 1998-1999 we collected data from 102 of 137 firms, for a response rate of 74 percent. The data collection process revealed that 16 of these firms did not really fit the profile, and thus our final sample consisted of 86 firms.

The minimum desire for growth was 20 percent per year, with a maximum of "to infinity and beyond" and a mode of 100 percent per year. The average firm had 55 employees (not including the founder), with a standard deviation of 83 and a range from 1 to 420. Sixty-two percent of the firms did business in information technology, 25 percent in biotech/pharmaceutical, and 13 percent in related industries. In most cases, firms in related industries were doing something aligned with one or both industries, such as software for pharmaceutical companies, but were not clearly in either industry. The average percentage of employees with technical skills or training was around 80 percent for each industry category.

Questionnaire

We first conducted unstructured exploratory interviews with two groups of entrepreneurs. We talked with 31 founders of environmental consulting and computer training firms in the

Research Triangle area of North Carolina, exploring in detail their firms' employment histories, beginning with the decision to bring on the first non-founding employee through their current situation. We then administered several iterative versions of a more structured draft questionnaire to 18 entrepreneurs from the Metro D.C. area, and from the Route 128 region of Massachusetts, following up with in-depth interviews in which we attempted to improve the quality of our questions.

Our final instrument was relatively long (over 120 questions, with many of the questions open-ended). As a structured interview, the questionnaire took a minimum of just under two hours. The instrument was structured so that questions about experiences with dependence came long after questions about the firm's employment practice history. In our pilot interviews, no founder claimed to have discerned the theoretical questions we were trying to explore.

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Variables and Measures

Descriptive statistics for all variables used in our analyses are reported in Table 1.

Response to Dependence. We measured strategic responses to dependence by asking entrepreneurs about situations they identified as ones in which they “were concerned that if a particular employee left, it would leave a hole that would be hard to fill.” Responses were coded as bricolage if entrepreneurs reported that their typical response emphasized any of the following – (1) trying to make sure the employees on whom they were dependent did not want to leave, (2) de-emphasizing part of the business, or (3) doing nothing – to a greater extent than their typical response emphasized looking for a replacement. Otherwise, they were coded as resource-seeking. Quantifying precisely how much one response strategy was preferred over the other

proved difficult, and thus we in our models, predominant response strategies were dichotomized into resource-seeking responses, coded “1” and bricolage responses, coded “0.”

Resource Buffering: Hiring to Avoid Dependence. We asked founders “Have you ever hired a new employee, not specifically because of workload, but in order to avoid having only one person in the firm who could do a particular job or set of tasks?” “Yes” was coded 1 and “no” was coded 0. Almost one-third of the founders had carried out such hiring.

Resource Squandering: Offering Special Deals. We asked “do you ever offer people you are trying to recruit ‘special deals’ (e.g. extra vacation, stock options, promises of tuition assistance) when they join your firm?” “Yes” was coded 1 and “no” was coded 0. Slightly over half of the founders reported offering such deals.

Stakeholder Conflict: Employee Complaints. We asked “Have you had any complaints of unfairness from employees who said that you treat other employees better than them?” “Yes” was coded 1 and “no” was coded 0. About one-quarter of the founders reported such complaints.

Perceived Environment: Percent of No-Labor-Market-Based Dependence Relations. Almost 90 percent of our respondents reported experiencing at least one episode of dependence on an employee, with the average founder reporting just over 5 dependency relations. We created a continuous measure of the founders’ perceptions of their sources of dependence, because not every relation was perceived similarly. We coded as “labor market perceived to exist” those dependence relations in which an employee was described as hard to replace because people with equivalent skills – although they might be expensive – could be found in the labor market. We coded as “no labor market perceived to exist” dependence relations in which an employee was described as hard to replace due to having unique skills or knowledge of the firm’s operations, technology or other aspects of the business. We then summed across all

reported dependence relations, calculating the percent of dependencies attributed to the absence of a labor market for the needed skills or knowledge. On average, across all founders, about 47 percent of all dependence relations were attributed to lack of a labor market for equivalent employees.

Delegating Dependence Relation Management: Presence of an HR Specialist. We asked, “Is there a person in your firm with primary responsibility for recruitment, benefits, or other human resource issues?” Founders who answered “yes” but who specified that they themselves played the HR role were coded as “no.” Founders with an HR specialist were coded “1 and the rest were coded “0.”

Control Variables

IT Industry and Pharmaceutical Industry. We used dummy variables for each of the two industries. The implicit excluded category is “other.” The average IT firm in the sample was about 7.5 years old with 68 employees, compared with just over 4 years and 40 employees for the biotech/pharmaceutical firms.

Number of Employees. Count of number of employees at time that data were gathered.

Age of Firm. Age of firm in months at time that data were gathered.

Founder Industry Experience. Coded “1” if a founder had prior experience in the same or a closely related industry and “0” otherwise.

RESULTS

We used logistic regression analysis to evaluate our propositions. Our dependent variables are all dichotomous. OLS regression is not robust against the violations of underlying assumptions that occur with dichotomous (and other categorical or “qualitative”) variables.

Logistic regression is “an attractive alternative” to OLS for dichotomous dependent variables (Aldrich & Nelson 1984, p.32). It also has the useful property that results may be interpreted as “the odds of an event occurring versus not occurring, per unit change in an explanatory variable, other things being equal (Liao 1994, p.16).” We use this simple interpretation throughout the results section. The same interpretation holds for both continuous and categorical independent variables and it is not available with most other functional forms appropriate for categorical dependent variables.

Hypothesis 1: Response to Dependence

To test hypothesis 1, our dependent variable is a founder’s response to dependence, coded “1” for those who call most frequently on a resource-seeking response, and “0” otherwise. Hypothesis 1 is supported, as shown in Table 2. The percentage of cases in which the labor market was perceived to contain no adequate replacements for an employee is a significant and substantively important predictor that entrepreneurs will not emphasize resource-seeking over bricolage in responding to dependence. If an entrepreneur believes that there are no alternatives in the labor market to replace an employee’s idiosyncratic skills, the odds of adopting a resource seeking strategy are reduced by a factor of seven, compared to an entrepreneur who believes that a labor market for adequate replacements exists. Stated differently, founders who attributed all their employee dependence relations to the lack of a market raised their odds of adopting a bricolage strategy by a factor of seven.

In this sample of high technology firms, bricolage was mainly about trying to make sure particular employees did not leave the firm. Only one entrepreneur reported doing nothing in response to dependence on an employee, and he later explained that by doing nothing he meant that his only action was to continue doing what he’d done all along, which amounted to trying to

keep the employee on whom he was dependent happy. The five entrepreneurs who reported de-emphasizing part of the business also strongly emphasized making sure the employees did not want to leave.

-- Insert TABLE 2 About Here --

Hypothesis 2: Resource Buffering

One-third of the entrepreneurs reported that they had hired a new employee to avoid dependence, rather than because of workload. For example, one biotech founder who undertook a new research project in his firm hired his first scientist trained in an entirely different specialty than the founder's own field in biology. He realized after several months that he was unable to understand with any depth the details of the scientist's project. The entrepreneur became concerned that if the scientist left, the firm could lose all benefits of the scientist's work – not because the scientist was seen as untrustworthy or likely to “steal” company secrets, but simply because the firm had no way to capture or retain the results of the science. The entrepreneur decided to recruit another scientist trained in the same new scientific specialty in order to reduce his concern about dependence on a key employee.

-- Insert TABLE 3 about here --

Our results indicate that a pattern of emphasizing a resource-seeking response to dependence is a statistically significant and substantively important predictor of hiring to avoid dependence, as shown in Table 3. If an entrepreneur has emphasized a resource-seeking response to managing dependence relations, the odds of having hired someone prior to when workload required adding to staff are multiplied by a factor of almost five. Hypothesis 2 is thus supported.

Hypothesis 3: Resource Squandering

Fifty-four percent of entrepreneurs reported offering special recruitment deals. Several entrepreneurs described offering benefits and perks to recruits that were superior to those they gave themselves. One desperate entrepreneur even agreed to let someone he was trying to recruit continue running a separate business that was potentially in competition with his own firm.

-- Insert TABLE 4 about here --

As shown by the results in Table 4, Hypothesis 3 is not supported. It appears that whether entrepreneurs tend to emphasize resource-seeking response to dependence does not affect whether they are willing to occasionally offer special deals. Special deals are apparently very much job- and person-specific. Even entrepreneurs pursuing *bricolage* strategies apparently adopt such tactics on occasion. Entrepreneurship and bricolage often demand taking advantage of emerging opportunities that have little to do with previous strategies, and sometimes this will mean treating some employees more favorably than others, even if it makes current employees resentful. If such opportunistic deal making occurs, it would account for the lack of association between responses to dependence and stakeholder conflict.

We note that a founder's industry experience or the industry context itself does not affect the offering of deals. They are affected, however, by the presence of an HR specialist.

Hypothesis 4: Stakeholder Conflict

About one-quarter of entrepreneurs reported that they had "had complaints of unfairness from employees who said you treat other employees better than them." One entrepreneur described a very strong bricolage emphasis, making use of a work environment in which employees believed he cared about them personally, and would treat them fairly, given his resource constraints. He utilized "open book" management to help employees understand the firm's constraints. He then encountered the opportunity to hire a very senior manager.

However, recruiting the new manager required violating the firm's low salary norms while simultaneously giving an employee an ownership stake for the first time. Incumbent employees were very unhappy about the introduction of "star" treatment for the new recruit. The entrepreneur described the fallout – "the complaints – really, it was more like whining – lasted for months, and I think it ... well, it was like a turning point. We weren't the little family any more." A few months later, several of the employees hired early in the firm's history left together to start a competing firm.

-- Insert TABLE 5 about here --

The results shown in Table 5 support Hypothesis 4, showing that adopting a resource-seeking response and offering special recruitment deals are strong and independent predictors of experiencing employee complaints of unfairness. Both factors cause about a five-fold increase in the odds of experiencing complaints. Given the structure of logistic models, we would thus expect founders who both offer special deals and pursue resource seeking strategies to have 25 times the likelihood of experiencing employee complaints, compared to those not pursuing bricolage strategies and not offering special deals.

Founders with prior experience in the industry are less likely to report employee complaints of unfairness. Perhaps such founders are better prepared to avoid perceptions of unfair treatment. Alternatively, founders with prior experience in an industry where deals are common may have become accustomed to complaints of unfairness. As one founder responded when asked what he thought made employees complain, "they don't need a reason, I've just learned to expect it as part of human nature."

Hypothesis 5: Delegation of Managing Dependence Relations

To assess support for hypothesis 5, concerning the effects of delegating the management of employment-based dependencies to an HR specialist, we summarize the results shown in Tables 2-5. In Table 2, the presence of an HR specialist is significant (one-tailed test) and increases the odds that a founder has adopted a resource seeking strategy by a factor of 3.5. In Table 3, the delegation of HR is again significant. After including the full set of controls and bricolage versus resource-seeking emphasis, the presence of an HR person increases the odds an entrepreneur will hire someone in an attempt to avoid dependence by a factor of slightly over 3.

In Table 4, employing an HR person is a large positive predictor of offering special deals. The odds that an entrepreneur will sometimes offer special recruitment deals are multiplied by a factor of 9 if an HR specialist is present. In Table 5, contrary to our prediction, the presence of an HR person neither increases nor decreases the likelihood that an entrepreneur will have experienced employee complaints.

DISCUSSION

The results of our study provide strong support for the theoretical argument we have developed tying entrepreneurs' responses to dependence on employees to employment practice outcomes. Four of our 5 hypotheses describing aspects of the relations between perceived dependence on employees, improvised responses, and employment practice outcomes were supported. We are particularly encouraged by the explanatory power of the contrast between resource-seeking and bricolage responses to dependence. Our dichotomous measure captures only a portion of the potential variation in the degree to which entrepreneurs emphasize one response over the other, thus rendering our models a conservative test of the explanatory power of our conceptualization (Cohen 1983) of responses to dependence.

Improvised Responses to Dependence on Employees

Entrepreneurs' perceptions of the labor markets in which their firms are embedded are strongly associated with their patterns of improvisation in the face of dependence. The more that founders perceive valuable employees as carrying unique or idiosyncratic skills not readily available in the labor market, the greater the odds that they will pursue bricolage responses. Conversely, the more that founders perceive valuable employees as having skills that exist in the labor market, the greater the odds that they will pursue resource-seeking responses. The perceived existence of a market makes a resource-seeking response to dependence a viable option, though it does not guarantee this option will be chosen.

Resource-seeking improvisation is associated with the resource buffering strategy of adding to staff before workloads really require it. By making new hires into existing jobs, entrepreneurs can reduce the number of jobs held by a single incumbent. In the short run, hiring to avoid dependence may provide some advantages to founders. However, an entrepreneur who frequently hires to avoid dependence will build a relatively homogeneous firm composed of many people with similar skills, relative to an entrepreneur who hires based on workload demands. If firms do business in stable environments, relative homogeneity of employee skills may help entrepreneurs build stable routines and efficiencies, gaining the benefits of bureaucratization early. However, in the dynamic environments typical of high technology startups, homogeneity is a disadvantage. Instead, a more diverse group of employee skills may be required.

We found no relationship between an entrepreneur's responses to dependence and whether they offered special recruitment deals. Even entrepreneurs who generally adopt

bricolage responses to dependence will, at least on occasion, make special deals to bring in new people.

We found strong support for our hypothesis that resource seeking and special deals would have independent effects on the generation of employee complaints. Founders who offer special deals to some of their employees risk incurring the wrath of the rest. Resource-seeking strategies also apparently provoke negative responses from employees. Perhaps founders who use such strategies spend more of their time on external relations and thus allow internal problems to accumulate. By contrast, founders pursuing bricolage strategies may be more aware of how resources are being used internally, and they are thus able to spot problems before they grow into major complaints.

Responses to Dependence on Other Resource Providers

The support we found for the application of our theory to employment relations provides initial support for the more general argument we presented concerning the resource dependencies faced by entrepreneurs. Because the process of building a new firm is so strongly focused on gathering resources, entrepreneurship is in an important sense a process of responding to and managing emerging dependencies. How entrepreneurs respond to these dependencies is highly improvisational because of the overall ambiguity and workload of building a new firm, and because of the unpredictability of many dependencies. Entrepreneurs learn the contours of the resource environments in which their firms are embedded and make up many of their responses as they go along.

Further research is needed to examine the fit of our theory with entrepreneurs' responses to dependence on providers of other resources and the pattern of effects from these responses. Moreover, it would be useful to examine patterns of bricolage versus resource seeking in a

context of simultaneously emerging dependencies on multiple types of resources. Do entrepreneurs focus resource seeking on particular types of resources, leaving others to bricolage? Do they exhibit a more general pattern of oscillation between bricolage and resource seeking? Does improvisation become a habit, a competency that leads to strategic reliance on improvisational skills to solve problems (Baker & Miner 2000)? We believe that the combination of the resource dependence perspective and organizational improvisation theory provides a powerful lens for continued investigation.

Contributions to The Resource Dependence Perspective and Improvisation Theory

Our analysis contributes to the appreciative but critical literature on resource dependence in four ways. First, we have drawn on the resource dependence perspective to argue that because entrepreneurs typically begin with few resources, they must simultaneously gather a wide variety of resources and respond to emergent dependency relations. In contrast, established firms have routines and taken-for-granted approaches to many dependencies and a greater ability to make trade-offs between them. Entrepreneurship may thus be a more fruitful domain for the study of resource dependence dynamics than the established firms that have been the focus of the resource dependence perspective for over thirty years.

Second, we have emphasized the resource dependence perspective's assumption that the only environment that matters for decision making is the environment, as decision-makers perceive it. In our analysis, we measured founders' perceptions and controlled for the "objective" environment by studying firms embedded in the same labor market. The importance of respecting the environment as perceived by founders was driven home by many conversations with entrepreneurs in our study, as the following example illustrates.

We interviewed founders in two firms that seemed to be in extraordinarily similar circumstances. They were about the same size (25-30 employees) and both provided sales management and similar software solutions to small and middle-market customers using an object-oriented paradigm and the same programming languages. Each founder was deeply engaged in figuring out how they would provide e-commerce solutions to current customers, and how to use the Web as an opportunity to build their business. Nevertheless, they disagreed on what types of skills were hard to find locally, and they described very different experiences of dependence.

These competitors also did not agree on how to go about finding and recruiting new talent. One founder explained that the biggest lesson he had learned was to rely more on his network to find new employees, whereas the other explained that he had learned to give up on personal recruiting and rely on professional recruiters to attract people to his firm! Each founder had enacted a different labor market, and each perceived and responded to different sorts of dependencies. Measuring objective labor market conditions did not provide a basis for understanding variations in these entrepreneurs' employment practices.

Third, we integrated the resource dependence perspective with the theory of organizational improvisation. Resource dependence is not – by itself – particularly important or interesting. What matters is how entrepreneurs respond to it. We have argued that a great deal of entrepreneurial work in building a new firm is improvisational, and we demonstrated that a few simple concepts from improvisation theory – the convergence of planning and execution, and bricolage – can shed light on important entrepreneurial processes.

Fourth, we carried out an empirical test of Weick's (1993) insight that improvised responses to dependencies influence emergent design. Research on improvisation in established

firms typically focuses on showing how tactics are improvised, and improvisation is seldom portrayed as exerting a significant effect on strategy (Moorman & Miner 1998b; Baker & Miner 2000). However, our study suggests that strategically important outcomes – the overall culture of a firm, the diversity of the resources it acquires, whether it is profligate or conservative – may be strongly affected by patterns of improvisation during a firm’s startup phase.

Implications for HRM

Our pattern of results provides strong support for our argument that HR specialists in entrepreneurial firms are acting primarily in a resource-seeking role. In their study of entrepreneurial firms, Hannan and colleagues (Hannan, Burton, & Baron 1996, p.525) found support “for the view that HR managers come to firms with fixed agendas that might not be responsive to the firm’s business context.” We cannot tell clearly from our data the extent to which HR people affect or are affected by HR strategy, but we can make a weak inference in support of Hannan et al.’s finding. Most of the founders in our sample told us that they had delegated generalist HR responsibilities to someone else in their firms. Nonetheless, based on our conversations with some of the HR people and our empirical analysis, they appear to be engaged mainly in recruitment activities. If a founder delegates generalist activities and the HR person then focuses on recruitment, it suggests that the HR people influence the strategy for responding to dependence. Thus, we speculate that human resource specialists brought their recruitment agendas to these firms, and that the unplanned consequences of delegating human resource responsibilities influenced founder’s response strategies.

Moreover, one plausible explanation is that founders delegate HR functions when the burden of trying to do all of the work themselves becomes too great. When we asked whether the firm has someone in an HR role, 18 founders’ first response was a variant of “yes, me!”

Eventually, about two-thirds of founders had hired an HR person: 55 firms in the sample reported having someone other than the founder in an HR role, and 29 did not. Ninety-seven percent of firms with more than 40 employees had someone other than the founder in an HR role, while only 49 percent of the firms with 40 or fewer employees had delegated HR responsibilities. Firm size seems to drive the delegation of HR issues to a person in a formal HR role, and this opens a possibility for HR specialists to influence how entrepreneurs respond to dependence.

We found that employing an HR specialist can be costly to a new firm, as HR specialists substantially increase the likelihood of founders offering special deals to some employees. Special deals, in turn, increase employee complaints about the firm's practices. Resentment and dissension, in turn, create difficulties in retaining employees (Halaby 1986). Employees who feel they have been treated unfairly relative to their colleagues are more likely to leave the firm. In a tight labor market with high mobility between firms, a firm with ex-employees spreading the word about "unfair" employment practices will find recruiting new people increasingly difficult. Nonetheless, entrepreneurs must sometimes resort to special recruitment deals for specific employees.

The Resource-Based View and Strategic Fit

The resource-based view of the firm focuses on the rare, valuable and hard to imitate resources that firms control (Barney 1991; Wernerfelt 1984). In this perspective, firms are urged to nurture and build competitive advantage based on exploitation of those resources that allow them to perform particular activities better than their competitors. Strategic human resource management researchers adopting the resource-based view argue that employees, particularly as they contribute to and become embedded in evolving firm routines and processes, represent strategic resources that can be rare, valuable, and hard to imitate (Capelli & Crocker-Hefter

1999). They suggest that firms build competencies (Hamel & Prahalad 1994) around such resources.

By the later stages of this study, we found ourselves increasingly skeptical of entrepreneurs' descriptions of the uniqueness of their firms' technical "gurus" and other ostensibly indispensable employees. We wonder how often entrepreneurs mistake some local idiosyncrasy – for example, an employee who is hard to replace because she is the only one capable of performing some poorly conceived process or set of tasks – for a resource that is rare, hard to imitate and *competitively* valuable. During our pilot, we interviewed the founder of a firm developing what he believes is a revolutionary medical imaging device, based on the technical skills of one key employee. We explored with him the question: why couldn't any group of bright imaging engineers quickly replicate the technology? His final answer was that "no one else has Dr. Jones, and there is no one else like him to get." But we also found two other firms with teams of engineers developing equivalent technology.

Generalizing this speculation to other types of resources, we wonder how often entrepreneurs involved in dependence relations confuse uniqueness based on some local idiosyncrasy with rareness that is hard to imitate and competitively valuable. We suspect that some of the firms in our sample were engaged building flawed strategies around the mistaken assumption that their key employees represented sources of competitive advantage. We wonder how often this happens with other resource providers on which entrepreneurs are dependent.

Limitations

Although we took great care to construct firm histories from people who were in a good position to report on them, and who felt comfortable about their abilities, our study is

nonetheless retrospective and subject to biases in that regard. We have attempted to build compelling theoretical arguments for our causal inferences, but plausible competing causal arguments are possible. We had to create most of the measures we used to operationalize our concepts, and will be able to improve upon them in future work. Finally, our sample is limited to a group of very similar firms in very similar circumstances. We should be very careful about generalizing to more diverse populations before additional studies are completed.

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Table 1
Correlations and Descriptive Statistics for All Variables^a

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9
1. Response to Dependence (1=resource-seeking; 0= bricolage)	0.47	0.50									
2. Resource Buffering: Hiring to Avoid Dependence	0.34	0.48	.32**								
3. Resource Squandering: Offering Special Deals	0.54	0.50	.18	.31**							
4. Stakeholder Conflict: Employee Complaints	0.24	0.43	.31**	.28**	.27*						
5. IT Industry	0.62	0.49	.03	.15	.01	.12					
6. Pharmaceutical Industry	0.25	0.44	-.17	-.18	.01	-.08	-.74**				
7. Number of Employees	54.99	82.91	-.02	-.04	.13	-.07	.21	-.11			
8. Age of Firm (months)	79.35	57.15	-.16	.09	.11	.001	.27*	-.30**	.17		
9. Founder Industry Experience	0.75	0.44	-.06	-.05	.10	-.11	.05	.08	.10	.02	
10. Delegating Dependence Relation Management: Presence of an HR Specialist	0.65	0.48	.19	.14	.37**	.02	.00	.02	.34**	-.10	.00
11. Perceived Environment: Percent of No-Labor-Market-Based Dependence Relations	0.47	0.38	-.35**	-.17	-.23	-.22	.05	.05	.06	.16	-.06

^aN ranges from 74 to 86

* p<.05

** p<.01

Table 2
Logistic Regression of Response to Dependence: Resource-Seeking versus Bricolage
Improvisation

Independent Variable	Parameter Estimate	Standard Error	Odds Ratio
Intercept	-2.101*	1.132	
IT Industry	-0.741	0.943	0.476
Pharmaceutical Industry	-1.799*	1.064	0.165
Number of Employees	-0.002	0.003	0.998
Age of Firm	-0.006	0.005	0.994
Founder Industry Experience	-0.430	0.671	0.651
Delegating Dependence Relation Management: Presence of an HR Specialist	1.261**	0.658	3.531
Perceived Environment: Percent of No-Labor-Market- Based Dependence Relations	-1.982***	0.765	0.138
chi square 17.194, 7 df			

N= 68 * p<.10 **p<.05 ***p<.01

Table 3
Logistic Regression of Resource Buffering: Hiring to Avoid Dependence

Independent Variable	Parameter Estimate	Standard Error	Odds Ratio
Intercept	-1.261	1.112	
IT Industry	0.504	0.883	1.657
Pharmaceutical Industry	-0.045	1.075	0.956
Number of Employees	-0.007	0.006	.0993
Age of Firm	0.008	0.005	1.008
Founder Industry Experience	-0.131	0.664	0.878
Delegating Dependence Relation Management: Presence of an HR Specialist	1.147**	0.695	3.148
Response to Dependence: Resource-seeking Improvisation	1.55**	0.640	4.717
chi square 14.052, 7df			

N=69 * p<.10 **p<.05 ***p<.01

Table 4
Logistic Regression of Resource Squandering: Offering Special Deals

Independent Variable	Parameter Estimate	Standard Error	Odds Ratio
Intercept	-1.67	1.29	
IT Industry	-0.41	0.97	0.66
Pharmaceutical/ Biotech Industry	-0.43	1.11	0.65
Number of Employees	0.00	0.00	1.00
Age of Firm	0.01	0.01	1.00
Founder Industry Experience	0.13	0.69	1.14
Delegating Dependence Relation Management: Presence of an HR Specialist	2.20****	0.71	9.07
Response to Dependence: Resource-seeking Improvisation	0.74	0.62	2.10
chi square 22.956, 8 df			

N=67 * p<.10 **p<.05 ***p<.01 ****p<.001

Table 5
Logistic Regression of Stakeholder Conflict: Employee Complaints

Independent Variable	Parameter Estimate	Standard Error	Odds Ratio
Intercept	-2.195	1.429	
IT Industry	1.248	1.105	3.484
Pharmaceutical/ Biotech Industry	1.022	1.267	2.780
Number of Employees	-0.005	0.006	0.995
Age of Firm	-0.003	0.006	0.997
Founder Industry Experience	-1.400*	0.718	0.247
Delegating Dependence Relation Management: Presence of an HR Specialist	-0.692	0.855	0.500
Resource Squandering: Offering Special Deals	1.695**	0.859	5.449
Response to Dependence: Resource- seeking Improvisation	1.566**	0.728	4.786
chi square 15.476, 8 df			

N=67 * p<.10 **p<.05 ***p<.01