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Michael Louis McDonald

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I Think I Can, I Think I Can:
A Cognitive Appraisal Theory Perspective
on CEO External Advice Seeking
and Firm Strategic Change
in Response to Poor Firm Performance

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I Think I Can, I Think I Can: 
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by

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Dedication

This dissertation is dedicated to my wife Ana. Without your presence in my life I could not have even imagined embarking on a Ph.D., and without your love, caring, and support this document and the things that come with it just never would have been possible. Thanks for all of the large and small sacrifices that you made to get me through.

This dissertation is also dedicated to my parents John and Ann for their never-ending support and for instilling in me the beliefs and values that sustained me through this process.
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Last, (but most certainly not least), I would like to thank all of those other friends who took us into their community and shared their love and support over
the past six years. I’m sure that I’ll forget someone, but names should be named.

My never-ending thanks go out to Lanette and Slade, Jenny and Steven (and
Max), and Diana and Craig (and Elena and Sophia). Thanks also to our newest
friends Karen and Nate. I never would have made it without you guys. I am
leaving Austin with a heavy heart but with so much more than a Ph.D.
This dissertation considers factors that influence how top executives search for information in response to poor performance and how top managers’ information search behaviors, in turn, impact the level of firm strategic change they pursue. This research focuses on a particular kind of information search, specifically CEOs’ efforts to obtain advice from executives of other firms, and it considers contingencies which might determine the extent to which CEOs of poorly performing firms engage in restricted search in the form of high levels of advice seeking from friends or low levels of advice seeking from non-friends.

The conceptual framework developed integrates insights from threat-rigidity theory and contemporary psychological research on stress and coping, and its central thesis is that CEOs of poorly performing firms will be less prone to restricted search to the extent they are likely to be confident that they can effect
performance-enhancing strategic change. Argument in support of specific hypotheses suggests that, because high CEO position tenure, high CEO industry experience, high CEO extra-industry experience, large organizational size, broad organizational product/service offerings, and low rival firm aggressiveness will increase CEO confidence, these factors will reduce CEOs’ tendencies to restricted information search in response to poor performance. These predictions are tested using a dataset that combines archival data on hospital characteristics with information on hospital CEOs and their advisors captured via an original survey. All of these predictions receive at least partial support.

In considering how CEOs’ advice-seeking behaviors might, in turn, influence the level of strategic change that a firm pursues, this dissertation argues that restricted search (e.g., high levels of advice seeking from friends) will be associated with low levels of strategic change. The empirical results also support these predictions.

This dissertation advances understanding of the processes that shape firm tendencies to persist in or change their strategies when they are performing poorly. It demonstrates how CEOs’ propensities to engage in strategic inertia-promoting patterns of information search in response to poor firm performance are reduced under conditions likely to increase their confidence in their abilities to effect performance-enhancing strategic change.
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CHAPTER 1: INTRODUCTION

This dissertation seeks to contribute to understanding of how top managers respond to poor firm performance and the role that those responses play in shaping the extent to which firms persist in or change their strategies when they are performing poorly (Cyert and March, 1963; Staw, Sandelands, and Dutton, 1981; Ocasio, 1995). It focuses on identifying factors that might modify the effects of poor performance on CEOs’ efforts to gather information via their informal advice networks of executives of other firms. It further considers how CEOs’ information search behaviors might, in turn, determine the amount of firm strategic change that they pursue. Because relevant theoretical perspectives, specifically threat-rigidity theory (Staw, Sandelands, and Dutton, 1981) and the behavioral theory of the firm (Cyert and March, 1963), provide little guidance regarding the issue, this dissertation develops a theory that specifies some of the contingencies that might reduce (or increase) CEOs’ tendencies to engage in restricted information search in response to poor performance. A separate theoretical argument is developed which suggests how restricted information search by CEOs might reduce the amount of strategic change they ultimately pursue. Taken as a whole, this dissertation is concerned with identifying conditions that might reduce (or increase) the propensities of CEOs of poorly performing firms to search for information in ways that are likely to promote
strategic inertia. Immediately below is a review of existing literature that would support the view that this is an important issue in need of research attention.

Manager and Firm Responses to Poor Firm Performance – A Review

The question of whether or not managers typically change or persist in firm strategies when their organizations are performing poorly has been a long-standing, central concern for organizational theorists and strategy researchers (Milliken and Lant, 1991; Ocasio, 1995; Ketchen and Palmer, 1999). In an extensive review of the relevant literature, Ocasio recently referred to this question as “a major unexplained issue facing organization theory” (Ocasio, 1995: 288). Two, now classic, theories have offered seemingly irreconcilable perspectives on this important topic. Threat-rigidity theory (Staw, Sandelands, and Dutton, 1981) argues that managers often sustain their firms’ current strategies when their firms are performing poorly. In contrast, the behavioral theory of the firm (Cyert and March, 1963) or “failure-induced change” theory perspective (Ocasio, 1995) offers the more intuitive view that managers routinely change firm strategies in response to poor performance.

Recent comprehensive reviews (Ocasio, 1995; Ketchen and Palmer, 1999) indicate that the available empirical findings regarding firms’ strategic responses to poor performance is far from conclusive, with multiple studies supporting each of the opposing predictions set forth by threat-rigidity theory and the behavioral theory of the firm. A number of studies suggest that top managers generally
revise their firms’ strategies when their firms are performing poorly. Chandler (1962) demonstrated how performance problems precipitated changes at a number of large corporations. A collection of large sample studies offers additional findings that support an adaptationist perspective (and contradict a threat-rigidity view). For example, Ketchen and Palmer (1999) found that poorly performing hospitals were more likely than better performing hospitals to add high technology services. Boeker (1997a), in a study of semi-conductor firms, found that poorly performing companies made greater changes in their level of product-market diversification than more successful firms. Zajac and Kraatz (1993) found that the liberal arts colleges in their sample showed a greater tendency to strategic restructuring when they were in financial distress.

While the above-cited research supports a behavioral theory of the firm perspective, a number of studies offer findings consistent with threat-rigidity theory. In their initial statement of threat-rigidity theory, Staw, Sandelands, and Dutton (1981) point to a number of, then contemporary, examples of firms that failed to adapt to economic adversity. Large sample studies also offer support for a threat-rigidity theory view. For example, D’Aunno and Sutton (1992) found that the drug abuse treatment organizations that they studied responded to financial adversity by behaving in rigid ways.

The literature on organizational decline (Whetten, 1987) also supports the view that firms often behave rigidly in the face of poor performance and empirical
studies of organizational decline processes suggest that poorly performing firms often manifest strategic inertia. For example, D’Aveni (1989) found that the declining firms in his sample engaged in less merger and acquisition activity than more successful firms. Two studies by Cameron and his colleagues indicate that poorly performing organizations tend to display a number of characteristics likely to inhibit strategic change (Cameron, Kim, and Whetten, 1987; Cameron, Whetten, and Kim, 1987). Barker and Mone (1998) found that the corporations in their sample that were in the greatest financial distress were the firms that showed the greatest tendency to a “mechanistic shift”, characterized by increased centralization, formalization, and restricted information search in managerial decision making, and that high levels of mechanistic shift contributed to subsequent firm strategic inertia.

Top manager cognition and decision making is at the center of many prevailing theoretical explanations of why firms might or might not generally revise their strategies when they are performing poorly. For example, the literature on organizational decline suggests how executives’ biased assessments of their firms’ performance problems contribute to firm tendencies to strategic persistence (Starbuck, Grieve, and Hedberg, 1978; Whetten, 1980, 1987; Hambrick and D’Aveni, 1988; see Barker and Duhaime, 1997 for a review). Related theory regarding executives’ accounts of poor firm performance suggests that poorly performing firms may persist in their strategies, in part, because
executives tend to over-attribute performance problems to external factors (Salancik and Meindl, 1984). Results from a number of empirical studies suggest that top managers display a distinct tendency to offer self-serving explanations of poor firm performance that focus on unfavorable environmental forces rather than possible short-comings of (executive-designed) firm strategy (e.g., D’Aveni and MacMillan, 1990; Barker and Barr, 2002), although it is ultimately unclear whether this pattern of attributions represents real cognitive biases or impression management.

Threat-rigidity theory argues that firms tend to persist in their strategies in the face of performance problems, in part, because the threatening nature of performance difficulties leads top executives to centralize decision-making processes in ways that ultimately reduce the likelihood of significant strategic change (Staw, Sandelands, and Dutton, 1981; Sutton, 1990; Ocasio, 1995). Relevant empirical studies provide at least some support for the proposition that poor performance leads to more centralized decision making (e.g., Gladstein and Reilly, 1985; D’Aunno and Sutton, 1992; Barker and Mone, 1998), but there is less direct evidence that centralization is necessarily associated with strategic inertia (but see Barker and Mone, 1998).

Both threat-rigidity and adaptationist perspectives suggest that how top managers search for information in the face of adversity might have important effects on the extent to which firms change strategies in response to poor
performance. Executive information search is a critical mediator in adaptationist accounts of how firms respond to performance problems. Failure-induced change theories (e.g., March and Simon, 1958; Cyert and March, 1963; Keisler and Sproull, 1982; Tushman and Romanelli, 1985) argue that organizations typically revise their strategies when faced with economic adversity, in part, because the failure to meet performance standards motivates managers to expand the range of information sources they consult beyond those likely to affirm their well-learned beliefs about what strategies will be effective. Threat-rigidity theory (Staw, Sandelands, and Dutton, 1981) also points to a central role for top manager information search. The theory suggests that firms may routinely persist in their strategies in the face of performance problems, to some significant degree, because the “stress” and anxiety that managers experience when their firms are having performance problems causes them to view strategic issues in terms of their well-learned, strategy-related beliefs and to narrow their search for information such that they rely more heavily on sources that provide information consistent with their pre-existing beliefs. The theory further argues that this pattern of information search will reduce managers’ tendencies to pursue strategic change.

While threat-rigidity theory and theories of failure-induced change offer important insights into the role that top managers’ information search behaviors might play in shaping how firms respond to performance problems, there remain
notable limitations in our understanding of how managers of poorly performing firms search for information and how their efforts to gather information ultimately shape firm action. On an empirical level, there have been very few large sample efforts to empirically adjudicate threat-rigidity theory and failure-induced change theory predictions about how top managers might search for information in the face of performance problems, and how their search behaviors might, in turn, influence the extent to which firms change their strategies. Especially lacking are field studies of the role that top executive information search might play in mediating firm responses to poor performance.

A recent study by McDonald and Westphal (forthcoming) provides some initial evidence regarding both how firm performance problems influence a particularly important kind of executive information search behavior, specifically managers’ efforts to obtain information and advice from executives at other firms, and how that advice seeking ultimately impacts the extent to which firms change their strategies. This study’s findings indicate that, broadly consistent with a threat-rigidity perspective, top executives of poorly performing firms tend to restrict their search for information in that they rely more heavily on the advice of executives of other firms who are especially likely to affirm their strategy-related beliefs (e.g., executives who are their personal friends). Results from this study further indicate that this pattern of advice seeking reduces the magnitude of strategic change that managers pursue. Importantly, this study’s findings also
indicate that strategic inertia that results from this pattern of advice seeking in the face of performance problems contributes to further declines in firm performance (see also Barker and Duhaime, 1997).

Especially given these findings, which suggest that executives of poorly performing firms tend to search for information in ultimately non-adaptive ways, it seems important to try to understand the conditions under which CEOs of poorly performing firms will be more or less likely to engage in restricted (or expanded) information search. Threat-rigidity theory and theories of failure-induced change provide little explicit guidance regarding the contingencies under which top executives might be more or less likely to respond to poor firm performance by restricting (or expanding) their search for information about strategic issues.

The Present Research

This dissertation develops a theory that specifies at least some of the conditions that will moderate the effects of poor performance on how narrowly or expansively CEOs search for information about strategic issues. The conceptual framework developed integrates insights from the classic theorizing just reviewed with insights from cognitive appraisal theory (Lazarus, 1966, 1981), a psychological perspective that focuses on factors that determine how individuals respond to situations that are personally threatening, including how they search for information in response to threat. Cognitive appraisal theory suggests that
people are less prone to searching in narrow ways in the face of threat when they believe that they can exercise personal control over a threat and its negative implications (Lazarus and Folkman, 1984). The theory developed in this dissertation builds on this core insight to explain why those CEOs of poorly performing firms who are likely to be most confident that they can effect strategic change that will reverse their firms’ performance problems will be the CEOs least prone to restricting their search for information.

A considerable body of research on social networks suggests that, for a number of reasons (discussed in detail below), friends will be more likely than non-friends to provide information and advice that generally supports each others’ pre-existing beliefs (Marsden, 1988), suggesting that CEOs’ friends will be more likely than non-friends to affirm their strategy-related beliefs. CEOs’ friends are likely to offer affirming views, in large part, because, as relevant management research suggests, people who share strong ties (e.g., friendship ties) in work-related information networks tend to hold similar work-related beliefs (e.g., Rice and Aydin, 1991; Ibarra and Andrews, 1993). Other research suggests that the friends of CEOs of poorly performing firms are likely to offer confirming perspectives because people face strong social obligations to provide social support to friends facing difficult situations (e.g., Ibarra, 1995). From the perspective of this research, executive tendencies to restricted information search may manifest themselves in high levels of advice seeking from friends or low
levels of advice seeking from non-friends, or both. The previously cited study by
McDonald and Westphal (forthcoming) found that, consistent with threat-rigidity
theory arguments, poor firm performance was associated with high levels of CEO
advice seeking from friends and low levels of CEO advice seeking from non-
friends. In this light, this dissertation specifically considers how factors that
influence CEOs’ confidence in their abilities to effect performance-enhancing
strategic change might moderate CEOs’ tendencies to respond to poor firm
performance by engaging in restricted information search in the form of high
levels of advice seeking from executives of other organizations who are friends or
low levels of advice seeking from executives who are not friends.

This dissertation goes on to consider how CEOs’ advice-seeking behaviors
might, in turn, influence how much strategic change a firm pursues in the face of
performance problems. The theory offered regarding this issue employs the same
social psychological and network perspective adopted by McDonald and
Westphal (forthcoming) in their research on the effects of executive advice
seeking on firm strategic change. This theory suggests why high levels of CEO
advice seeking from executives who are friends or low levels of advice seeking
from executives who are not friends is likely to be associated with low levels of
strategic change. Taken as a whole, the theoretical framework developed
specifies some of the conditions that might reduce the tendencies of CEOs of
poorly performing organizations to search for information in ways that promote
strategic inertia. The perspective adopted suggests that those CEOs who are most confident that they can effect performance-enhancing strategic change will be the CEOs least prone to restricted information search via their informal advice networks and that this reduced tendency to restricted search will enhance their willingness to pursue strategic change.

This dissertation tests the specific predictions suggested by this theoretical framework in the context of the healthcare industry using a unique data set that combines hospital CEOs’ responses to questions about the identity of their advice contacts and their professional backgrounds with archival data on hospital characteristics and performance.

The empirical findings generally support the theoretical predictions advanced. For all six (6) factors examined, CEOs of poorly performing firms showed a reduced tendency to restricted information search in the form of either high levels of advice seeking from friends or low levels of advice seeking from non-friends, when their confidence in their ability to effect performance-enhancing strategic change was expected to be high. For 2 of the factors, when CEO confidence was expected to be high, CEOs of poorly performing firms showed both relatively low levels of advice seeking from friends and high levels of advice seeking from non-friends. The empirical results further indicate that restricted search, in the form of either high levels of advice seeking from friends or low levels of advice seeking from non-friends, was associated with low levels
of firm strategic change. Taken together, the empirical findings provide solid support for the thesis that CEOs of poorly performing firms will be less prone to the kind of restricted information search that will promote strategic inertia when they are confident in their abilities to effect performance-enhancing strategic change.

The chief contribution of this research is to the literatures on how managers respond to poor firm performance and how their responses, in turn, influence how much firm strategic change they pursue when their firms are performing poorly. The theory and results presented contribute to the reconciliation of threat-rigidity and adaptationist perspectives by demonstrating that those CEOs who are likely to be most confident in their ability to effect performance-enhancing strategic change will be the CEOs who are least likely to seek out advice sources that will provide information that would ultimately reduce their willingness to change strategies.
CHAPTER 2: THEORY AND HYPOTHESES

CEO information search in response to poor performance.

**Threat-rigidity theory perspective.** In this section I argue that a threat-rigidity theory perspective indicates that poor firm performance will increase the frequency with which CEOs seek out information sources that tend to affirm their strongly held and deeply-ingrained beliefs about strategic issues and/or reduce the frequency with which CEOs seek out disconfirming sources.

Threat-rigidity theory (Staw, Sandelands, and Dutton, 1981) indicates that organizational leaders will experience economic adversity (e.g., poor financial performance) as personally threatening because there is a high probability that adversity will have negative consequences for them as individuals. As Sutton (1990) and others (Salancik and Meindl, 1984; Meindl, Ehrlich, and Dukerich, 1985) emphasize, organizational leaders are routinely blamed for serious organizational performance problems. As a result, executives are likely to expect that poor firm performance may have unfavorable effects on their compensation and their reputation in the market for executive labor and that, when sustained, poor performance will increase the likelihood that they will be dismissed.

Threat-rigidity theory (Staw, Sandelands, and Dutton, 1981; Sutton, 1990; Ocasio, 1995) further suggests that the personally threatening nature of economic adversity will cause significant psychological distress (e.g., “stress” and anxiety), for organizational leaders. In support of this argument, Staw and colleagues drew
on an extensive body of psychological research that indicates that even relatively mildly threatening situations created in experimental settings generate “stress” and anxiety for individuals. Staw and colleagues argue that stress and anxiety are “no doubt the immediate consequences of threat” (Staw, Sandelands, and Dutton 1981: 503) and that “threat is so frequently associated with these individual reactions [that] it has been used as a means to manipulate these variables” in laboratory-based research (Staw, Sandelands, and Dutton, 1981: 503). Sutton (1990) reviews subsequent academic research and “journalistic accounts” that would indicate that the threat associated with economic adversity causes significant psychological distress for top managers.

Staw and colleagues (1981) go on to argue that the psychological distress that top managers experience when their firms are experiencing performance problems will cause managers to increase their tendency to rigidly rely on those strongly-held, deeply-ingrained beliefs that support an organization’s current strategy. In support of this proposition, Staw and colleagues cite an extensive body of psychological research on the effects of “stress”, anxiety, and arousal on cognition and decision-making. This research strongly indicates that the psychological distress people experience when faced with threatening situations leads them to increase their dependence on their pre-existing, well-learned beliefs. Sutton (1990) reviews subsequent research that indicates that organizational
leaders often manifest this kind of restricted information processing when faced with threatening circumstances, especially poor firm performance.

Because people show a distinct preference for information sources that confirm their salient beliefs (Nisbett and Ross, 1980; Swann, 1996), the cognitive effects outlined by threat-rigidity theory are likely to be manifested in managers’ information search behaviors. In particular, a threat-rigidity perspective suggests that CEOs of poorly performing firms will seek relatively large amounts of information from sources that affirm their pre-existing beliefs and relatively small amounts of information from sources that disconfirm their pre-existing beliefs. Other psychological research offers additional support for this perspective. A number of studies indicate that, when peoples’ core beliefs are challenged, they increase their propensity to seek out sources of information that affirm these beliefs and reduce their tendencies to seek out sources of information that might disconfirm these beliefs (Nisbett and Ross, 1980; Swann, 1996). This suggests that, because poor firm performance can be expected to challenge CEOs’ strategy-related beliefs, CEOs of poorly performing firms will manifest an increased tendency to seek out sources of information that affirm their strategy-related beliefs and a reduced tendency to seek out sources that disconfirm those beliefs.

**Failure-induced change theory perspective.** Theories of failure-induced change, grounded in the behavioral theory of the firm (March and Simon, 1958; Cyert and March, 1963), offer a contrasting perspective on how poor firm
performance influences managers’ information search behaviors, suggesting that poor organizational performance motivates managers to search for alternative strategies that might return performance levels to some baseline performance aspiration level. This desire to improve performance, in turn, provokes “problemistic” (if local) search for information that might be used to develop alternative organizational strategies (Cyert and March, 1963). Problemistic search involves seeking out sources that provide non-redundant information and opinions on relevant strategic issues because it is these kinds of information sources that can best support the development of new, potentially performance-enhancing, strategic initiatives (Cyert and March, 1963).

Thus, theories of failure-induced change ultimately indicate that top managers will respond to poor organizational performance by relying relatively less heavily on sources of information that tend to affirm their pre-existing, strategy-related beliefs and relatively more heavily on sources of information that offer novel perspectives that might contradict these well-learned beliefs.

**CEO external advice seeking in response to poor performance.**

This dissertation specifically considers how poor performance might influence how CEOs gather information through their informal advice-networks of executives of other organizations. Classic studies of managerial work (Aguilar, 1967; Mintzberg, 1973) suggest that personal information sources, like other executives, are critical sources of information and advice for CEOs, and
subsequent research on executives’ efforts to scan their organizations’
environments support this view (Daft, Sormunen, and Parks, 1988; Elenkov,
1997). Research on board interlock ties suggests that managers’ external social
ties can have important effects on firm strategic behavior (e.g., Haunschild, 1993).
Although this body of research does not directly examine processes of social
interaction between top executives (e.g., processes of advice seeking), the relevant
findings do argue for a focus on how CEOs search for information via social ties
to executives of other firms and an expectation that advice seeking from these
sources may have noteworthy effects on firm tendencies to persist in or change
strategies (an expectation supported by recent empirical evidence [McDonald and
Westphal, forthcoming]).

This dissertation focuses on the extent to which poor firm performance
leads to restricted (or expanded) CEO information search in the form of high
levels of CEO advice seeking from executives who are their personal friends
and/or low levels of advice seeking from executives who are not their friends.
The discussion below provides argument that would indicate that a CEO’s friends
will show a greater tendency than non-friends to provide information and advice
that supports his or her pre-existing, well-learned strategy-related beliefs and that,
therefore, high levels of advice seeking from friends and/or low levels of advice
seeking from non-friends represents an important form of restricted information
search.
Social network theory and empirical research suggests that a CEO’s friends can be expected to show a greater tendency than non-friends to provide belief-confirming views, in part, because a CEO’s friends will hold strategy-related beliefs that are similar to his or her own. Research on homophily in social ties indicates that people that hold similar beliefs and attitudes are especially likely to form strong social ties (e.g., friendship ties) (Lazerfeld and Merton, 1954; McPherson and Smith-Lovin, 1987; Marsden, 1988; McPherson, Smith-Lovin, and Cook, 2001) and, thus, executives from different firms will become friends, in part, because they initially hold perspectives on strategic issues which are similar. Research on social influence processes in social networks also suggests that the views of people who share strong social ties become more similar over time (Erickson, 1988; Marsden and Friedkin, 1993). Strong ties promote social influence, in large part, because socially tied others are important social referents and, particularly when it is difficult to objectively verify the correctness of their beliefs, people show a distinct tendency to conform their beliefs and attitudes to those of their social referents (Festinger, 1954).

The above discussion of relevant disciplinary literatures suggests that a CEO’s friends will hold strategy-related beliefs that are similar to his or her own both because initial belief similarity increases the likelihood of the formation of friendship ties and because strong social ties contribute to increased similarity in beliefs over the life of a friendship. There is considerable evidence in the
management literature that indicates that managers and other organizational actors that share strong social ties tend to hold similar work-related attitudes and beliefs (Galaskiewicz and Burt, 1981; Rice and Aydin, 1991; Ibarra and Andrews, 1993; Monge and Contractor, 1997; Suitor and Keeton, 1997). McDonald and Westphal (forthcoming) provide evidence that executives who are friends pursue similar strategies, suggesting that they hold similar beliefs about what strategies are likely to succeed. Because a CEO’s friends are likely to hold strategy-related beliefs that are similar to his or her own, they will show a greater tendency than non-friends to provide information and advice that bolsters his or her pre-existing, strategy-related convictions.

Normative obligations associated with friendship ties will further increase the tendencies of a CEO’s friends to provide information and advice that affirms his or her strategy-related beliefs. Friendship brings with it socially sanctioned obligations to provide social support, especially in the face of adversity (Allan, 1979; Silver, 1990; Wellman and Wortley, 1990; Dugan and Kivett, 1998) and Ibarra (1995) argued that managers who share strong social ties are normatively obligated to promote each other’s sense of professional competence. In this light, a CEO’s friends will face strong social pressures to provide supportive advice, especially when a focal CEO’s firm is performing poorly.

Taken together with prior discussion of the threat-rigidity perspective on the impact of poor performance on CEO information search, the above suggests
that CEOs of organizations that are performing relatively poorly will display both relatively high levels of advice seeking from executives of other firms who are friends and relatively low levels of advice seeking from executives who are not friends, conclusions which can be summarized in the following formal hypotheses:

**H1a:** Poor organizational performance will be positively associated with the level of CEO advice seeking from executives of other organizations who are personal friends.

**H1b:** Poor organizational performance will be negatively associated with the level of CEO advice seeking from executives of other organizations who are non-friends.

Theories of failure-induced change point to the contrasting perspective that CEOs of firms that are performing relatively poorly will display both relatively high levels of advice from executives of other firms who are non-friends and relatively low levels of advice from executives who are friends, conclusions that can be summarized in the following formal hypotheses:

**H2a:** Poor organizational performance will be negatively associated with the level of CEO advice seeking from executives of other organizations who are personal friends.

**H2b:** Poor organizational performance will be positively associated with the level of CEO advice seeking from executives of other organizations who are non-friends.

Cognitive appraisal theory and information search in response to threat.

In the time since the publication of Staw and colleagues (1981) seminal article, the psychological literature on stress and its effects on cognition and
behavior has witnessed an explosion in the study of how people “cope” with stressful situations. The now very extensive literature on “stress and coping” is distinctive from the earlier stress research cited by Staw et al., (1981) in a number of important respects. Especially noteworthy is the emphasis that contemporary theories of stress and coping place on the role that peoples’ interpretations of threatening situations play in shaping how they respond to threat.

“Cognitive appraisal theory”, developed by Lazarus and his colleagues (e.g., Lazarus, Averill, and Opton, 1974; Coyne and Lazarus, 1980; Lazarus, 1981; Lazarus and Folkman, 1984a, 1984b; Lazarus, 1993), has been perhaps the most influential of contemporary cognitive perspectives on how people respond to stressful situations. Cognitive appraisal theory indicates that a particularly important aspect of peoples’ judgments about threatening situations is their assessment of the degree to which they can exercise personal control over a threat and its negative personal consequences (Lazarus and Folkman, 1984a). Among the central determinants of peoples’ judgments about their ability to control the negative effects of threat is their assessment of the resources that are at their disposal that might help them in reducing or eliminating the unfavorable impact of adversity. People facing similar threats may differ sharply in the quantity and quality of “coping resources” that they believe they can marshal.

Cognitive appraisal theory offers two important insights into the factors that are likely to shape how people search for information in response to
threatening situations. First, the theory indicates that the amount of psychological
distress that people experience in a threatening situation will depend upon the
degree to which they can personally control the threat and its personal
consequences. The theory suggests, not surprisingly, that those people who
believe they can exercise significant control over a threat will, under most
circumstances, experience less psychological distress than people who feel that
they can exercise little or no control (Lazarus and Folkman, 1984a, 1984b).
Consistent with prior discussion, assessments of control will depend heavily upon
the level of relevant resources at a person’s disposal and people with significant
resources that would support their ability to mitigate a threat will experience less
distress than people with few relevant resources (Lazarus, Cohen, Folkman,
Kanner, and Schaefer, 1980).

Taken in conjunction with the threat-rigidity thesis and the classic stress
research that supports it, this suggests that, when faced with the same or similar
threats, people who believe that they can exercise significant control over a threat
will be less prone than those who believe they have little control to rely on well-
learned pre-existing beliefs. As a result, they will be less reliant on information
sources that are likely to affirm those well-learned points of view and more
willing to seek out sources that may challenge their beliefs.

Cognitive appraisal theory further indicates that when people believe they
can exercise significant control over a threat they tend to pursue what have been
dubbed “problem-focused” coping strategies (Lazarus and Folkman, 1984a, 1984b). Problem-focused coping involves efforts to formulate and implement a plan of action that would effectively reduce or eliminate a particular threat (Lazarus and Folkman, 1984a, 1984b). In contrast, when people lack the kinds of resources that would allow them to effectively respond to a threat they engage in greater “emotion-focused” coping, which involves efforts to reduce the subjective psychological distress associated with the threat and its negative personal implications (Lazarus and Folkman, 1984a, 1984b). Emotion-focused coping routinely involves efforts to cognitively “re-frame” a threatening situation in ways that make it appear less problematic.

As Lazarus (1993) indicates in a recent review, there is substantial empirical evidence that supports the proposition that peoples’ assessments of their capacity for “coping” have the previously outlined general effects on peoples’ coping behaviors (e.g., Folkman and Lazarus, 1980; Folkman and Lazarus, 1985). Cognitive appraisal theory explicitly indicates that the impact of a person’s assessment of their ability to effectively respond to a threat will influence how they search for information. In particular, when people believe that they can effectively respond to a particular threat, people search vigilantly and comprehensively for information that they hope will help them to formulate and implement an effective response strategy (Averill, O’Brien, and Dewitt, 1977). In contrast, when they believe that they lack the ability to respond effectively, people
focus their search efforts on gathering information that would support subjectively reframing their predicament in a more positive light (Averill, O’Brien, and Dewitt, 1977). For example, when they believe they lack the resources to launch a new plan of action that would mitigate the threat they face, people are likely to focus their search for information on sources that would help them to convince themselves that their current strategy will ultimately prove successful.

The discussion that follows applies the above insights to develop a set of testable hypotheses regarding the ways in which a range of CEO and organizational characteristics will, through their likely implications for CEOs’ assessments of their ability to effect performance-enhancing changes in firm strategy, influence how CEOs search for information when their firms are performing poorly.

**CEOs’ confidence in their abilities to effect performance-enhancing strategic change and CEO advice seeking in response to poor performance.**

**CEO confidence and CEO advice seeking.** A cognitive appraisal theory perspective on how CEOs might search for information when their firms are performing poorly indicates that CEOs’ information search behaviors will be substantively shaped by their appraisals of their abilities to exercise personal control over firm performance problems. One clear way a CEO might exercise personal control over firm performance difficulties is by developing and successfully implementing a change in firm strategy that “turns things around”.

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This suggests that the information search behaviors of CEOs of poorly performing firms will be determined, to some significant degree, by CEOs’ confidence in their abilities to effect performance-enhancing strategic change.

Consistent with prior discussion, cognitive appraisal theory suggests two mechanisms by which CEOs’ assessments of whether they can “turn things around” will substantively influence how they search for information about strategic issues. First, the theory indicates that CEOs’ judgments about whether they can effect performance-enhancing changes in firm strategy will influence the amount of “stress” that they experience in the wake of poor firm performance, such that CEOs who are most confident that they can formulate and successfully implement a performance-enhancing change in strategy will experience less psychological distress than CEOs who are less confident that they can effect performance-enhancing change. Given prior discussion regarding the likely effects of psychological distress on CEOs’ information search behaviors, this suggests that CEOs who believe that they can effect performance-enhancing strategic change will be less prone to increasing their reliance on their well-learned, pre-existing strategic beliefs than less confident CEOs and therefore confident CEOs will be less prone to focusing their search for information on sources likely to affirm those beliefs. Similarly, relatively more confident CEOs will be more prepared to seek out sources that may contradict their well-learned strategy-related beliefs.
Second, cognitive appraisal theory indicates that CEOs of poorly performing firms who are confident that they can effect performance-enhancing changes in strategy will be less motivated to try to positively re-frame their predicament. One obvious way that CEOs might place their dilemma in a better light is by working to convince themselves that current performance problems are temporary, that their strategy-related beliefs are correct, and that their firm’s present strategy will ultimately prove successful. This re-framing approach will often be quite viable given the ambiguity that typically exists regarding the link between strategy and performance (Pfeffer, 1981). Although objective indicators of poor performance may suggest that current firm strategy and supporting beliefs have significant shortcomings, these indicators are unlikely to be definitive in this regard, particularly in the mind of a top firm executive who is, to some significant degree, responsible for their firm’s strategy. Consistent with a cognitive appraisal theory perspective, CEOs who are highly motivated to bolster current firm strategy because they are unsure that they can develop and successfully implement a better one will be both especially likely to seek out sources of information that tend to affirm the ultimate correctness of current firm strategy and the beliefs that support that strategy and especially unlikely to seek out sources of information that tend to disconfirm the correctness of current firm strategy and supporting beliefs. Similarly, CEOs who are less in need of bolstering current firm strategy because they are relatively confident that they can
develop and implement a better one will seek out affirming sources of information relatively less frequently than less confident CEOs and will seek out sources that might disconfirm their beliefs relatively more frequently than less confident CEOs.

Given prior discussion regarding the likely content of information and advice provided by friends and non-friends, the above suggests that CEOs of poorly performing organizations who are confident that they can formulate and successfully implement performance-enhancing change will tend to be relatively less reliant than less confident CEOs upon information and advice provided by executives of other firms who are friends. Similarly, these CEOs will seek out members of their advice networks who are not friends more frequently than less confident CEOs.

The discussion to this point can be summarized in the following pair of propositions:

**Proposition 1a:** Poor organizational performance will be less positively (or more negatively) associated with the level of CEO advice seeking from friends to the extent that a CEO is confident that he/she can effect performance-enhancing strategic change.

**Proposition 1b:** Poor organizational performance will be less negatively (or more positively) associated with the level of CEO advice seeking from non-friends to the extent that a CEO is confident that he/she can effect performance-enhancing strategic change.

Although this dissertation is principally concerned with how CEOs’ confidence impacts the extent to which CEOs rely on friends and non-friends for
advice, it is worth briefly considering at this juncture how CEOs’ confidence in their abilities to effect performance-enhancing change might influence other aspects of their advice-seeking behaviors. In particular, variation in CEOs’ confidence might influence the amount of advice that they seek regarding specific topics. For example, we might reasonably expect that CEOs who are confident that they can develop alternative strategies will seek less help from other executives in developing new strategies than CEOs who are less confident in their abilities to come up with changes in strategy on their own. However, we might also reasonably expect that confident CEOs will seek significant amounts of advice from executives at other firms about whether it makes sense to abandon their current strategy and whether any new strategic direction that they might be contemplating is likely to succeed. Thus, we should anticipate that even CEOs who are relatively confident regarding their abilities to effect strategic change will still do significant amounts of advice seeking that will have important implications for the amount of firm strategic change that they ultimately pursue.

Determinants of CEO confidence. Reliable and valid direct measures of CEOs’ confidence in their abilities to effect performance-enhancing strategic change are not currently available. The validity of any self-report measures of CEOs’ confidence in their abilities to turn things around that might be developed is likely to be low because CEOs’ judgments about such abilities will be subject to substantial self-serving biases. In this light, the current research focuses on
how a number of likely determinants of CEOs’ confidence in their capacities to effect performance-enhancing strategic change might ultimately influence CEOs’ advice-seeking behaviors. CEO characteristics examined include CEO position tenure, CEO industry experience, and CEO experience in industries outside their firm’s industry. Organizational attributes considered are organizational size and the scope of an organization’s product or service offerings. One aspect of organizations’ environments is considered, the aggressiveness of rival firm competitive behavior.

Because these factors are likely to influence CEOs’ sense of certainty that they can effect performance-enhancing strategic change they will, in turn, shape the effects that firm performance problems have on the relative frequency with which CEOs seek the advice of friends and non-friends. It is important to emphasize from the outset that CEOs’ advice-seeking behaviors will be determined by how a particular factor considered is likely to influence CEOs’ subjective assessments of their ability to formulate and successfully implement performance-enhancing strategic change. Thus, it is not necessary that the factors considered necessarily influence CEOs’ real abilities to effect performance-enhancing change in the way that CEOs might expect them to.

**CEO position tenure.** I argue here that CEOs of poorly performing organizations will be relatively more confident in their abilities to effect performance-enhancing strategic change when they have long position tenure.
in reality, long-tenured CEOs tend to pursue less strategic change than CEOs who have been in their position a relatively short period of time (Gabarro, 1987; Finkelstein and Hambrick, 1990; Wiersema and Bantel, 1992). However, the literature on the effects of position tenure on strategic change also suggests that the change-inhibiting effects of long tenure are likely to function largely outside the awareness of CEOs. Prevailing theoretical accounts suggest that long tenure reduces capacities for change because it is associated with restricted perceptions and rigid thinking (e.g., Finkelstein and Hambrick, 1990). But this literature also suggests that managers are typically unaware of these particular cognitive consequences of increasing position tenure, and that the negative effects of tenure on propensities to change are relatively powerful precisely because they function outside of top managers’ awareness (Wiersema and Bantel, 1992). Because the described change-inhibiting aspects of long position tenure tend to function outside of top manager awareness, they are likely to have little, if any, effect on CEOs’ beliefs about whether they can effect adaptive change.

In contrast, implications of long position tenure that are likely to enhance CEOs’ capacities to effect change will be highly salient to CEOs. In particular, CEOs are likely to strongly believe that their long position tenure will afford them extensive knowledge of their firms’ capabilities, “superior” knowledge that they might reasonably expect would aid their efforts to overcome performance
difficulties. The literature on organizational learning suggests that people tend to presume, (if sometimes incorrectly so), that greater experience in a particular domain tends to lead inexorably to superior knowledge in that domain (e.g., March, Sproull, and Tamuz, 1991). The psychological literature on expertise similarly suggests that people presume that their expertise in a particular decision domain is determined to a considerable degree by their level of experience in that domain (e.g., Ericsson, 1996).

CEOs with long tenure are also likely to view themselves as better able to effect change because they will expect to be particularly able to tap the views of other focal firm managers as they work to re-formulate firm strategy. The literature on social networks indicates that the strength of social ties tends to increase with increases in the length of time that people are socially proximate, suggesting that long-tenured CEOs will have stronger social ties with other top executives at their organization than CEOs with shorter tenures. Strong social ties engender trust (e.g., Krackhardt, 1992) and facilitate transfer of tacit knowledge (Hansen, 1999), and both trust and transfer capabilities are likely to improve CEOs’ abilities to draw on the knowledge of other managers as they try to develop ways of overcoming current performance problems. Long-tenured CEOs will also have more extensive informal social ties to managers at lower levels in the organization. These networks can function as an important source of
information about underlying causes of performance problems as well as ideas about how to overcome those difficulties.

Long-tenured CEOs will also tend to be relatively more confident than other CEOs that they can effectively implement a program of change designed to overcome the performance difficulties their firms are experiencing. They are likely to be more confident, in large part, because they will believe, and reasonably so, that their long tenure brings with it considerable influence over firm action. A number of studies indicate that increasing position tenure enhances CEO power (see Finkelstein and Hambrick, 1996 for a review). With increasing CEO tenure, an organization’s top-management team and board of directors are likely to be increasingly made up of individuals who were directly selected by, or whose selection was approved by, a firm’s CEO (Westphal and Zajac, 1996). These managers will be especially likely to support implementation of change advocated by a CEO, in part because, as the literature on biases in selection processes suggests, CEOs will tend to select and retain top managers who are socially similar to themselves and those similar managers are likely to hold strategy-related beliefs that are similar to those held by a focal CEO. Further, executives directly or indirectly selected by a CEO will support a CEO’s change program because they will feel obligated to do so given that they are likely to be “beholden” to the CEO for their current positions (Fredrickson, Hambrick, and Baumrin, 1988).
As previously suggested, long-tenured CEOs will tend to have extensive informal social ties to mid-level managers and other firm employees. Managers and other workers who have personal relations with a CEO will be more likely to enthusiastically support a program of change that he or she initiates. Further, they will be more likely to seek to convince others to support a CEO’s change program.

The theoretical framework advanced in this paper indicates that, because CEOs of poorly performing organizations who have long position tenure will be more confident than short-tenured CEOs that they can effect performance-enhancing strategic change, they will experience less psychological distress than CEOs of other firms who are facing difficulties of a similar magnitude and, therefore, will be less prone to thinking of strategic issues in terms of strongly held, well-learned mental models. As a result, these CEOs will be less likely to seek relatively high levels of advice from executives of other organizations who are friends and more likely to seek relatively high levels of advice from non-friends. The theory also indicates that confident CEOs will feel less need to bolster their firm’s current strategy, an additional psychological mechanism that will lead to relatively low levels of CEO advice seeking from executives who are friends and relatively high levels CEO advice seeking from executives who are not friends.
The conclusions drawn in this section can be formalized in the following hypotheses:

**H3a:** Poor organizational performance will be less positively (or more negatively) associated with the level of CEO advice seeking from friends to the extent that a CEO has long position tenure.

**H3b:** Poor organizational performance will be less negatively (or more positively) associated with the level of CEO advice seeking from non-friends to the extent that a CEO has long position tenure.

**CEO focal industry experience.** I argue here that CEOs of relatively poorly performing organizations who have long industry tenure will tend to be more confident than CEOs with limited industry experience that they can effect performance-enhancing strategic change. Relevant research suggests that CEOs with extensive industry experience may, in reality, pursue less strategic change than other CEOs (Grimm and Smith, 1991; Hambrick, Geletkanycz, and Fredrickson, 1993). However, this literature also suggests that the change-inhibiting effects of greater tenure are likely to function largely outside the awareness of top managers. Prevailing theory suggests that executives with long industry tenure show greater “commitment to the status quo”, in large part, because long tenure increases executive reliance on “industry recipes” (e.g., Hambrick, Geletkanycz, and Fredrickson, 1993). As Spender (1989) suggests, industry recipes are powerful constraints on manager thinking and firm action precisely because they function outside the awareness of firm executives. In this light, the fact that long industry tenure leads to increased reliance on industry
recipes is likely to be of low salience to CEOs and, thus, this particular implication of extensive industry experience will have little, if any, effect on CEOs’ subjective beliefs about their capacities to effect performance-enhancing change.

In contrast, some of the implications of long industry tenure that tend to enhance CEOs’ capacities to effect change will be of relatively high salience. In particular, CEOs with extensive experience in their firm’s industry will tend to believe that they have especially extensive industry knowledge and are likely to expect that this “superior” industry knowledge will support their ability to reverse their firms’ current performance difficulties. As previously suggested, both the organizational learning literature and the psychological literature on expertise and expert performance indicate that people tend to expect that greater experience in a particular domain substantively improves understanding of that domain (March, Sproull, and Tamuz, 1991; Ericsson, 1996). CEOs who believe that they have particularly complete understandings of their firms’ industries because they have greater industry tenure can reasonably be expected to believe that they will be able to exploit that superior knowledge to revise firm strategy in ways that will reverse current performance difficulties. These CEOs will, for example, see themselves as having greater understanding of any industry-based causes of their firms’ current performance problems and these positive assessments of their understandings are likely to translate into a greater sense of certainty regarding
how to reverse those problems. They also may view themselves as having more extensive knowledge of opportunities in an industry that might be exploited to improve firm performance and such beliefs are likely to further their confidence in their ability to effect performance-enhancing strategic change.

The theoretical framework advanced in this paper indicates that, because CEOs of poorly performing firms who have considerable industry experience will be more confident than CEOs with limited industry experience that they can effect performance-enhancing strategic change, these CEOs will experience less psychological distress than CEOs of organizations facing similar performance problems and will therefore be less prone to thinking of strategic issues in terms of over-learned mental models. CEOs who are confident that they can effect performance-enhancing change in firm strategy will also feel less need to bolster their firm’s current strategy. For both of these reasons, these CEOs will seek relatively low levels of advice from executives who are their personal friends and/or relatively high levels of advice from executives who are not their friends.

The conclusions drawn in this section can be summarized in the following formal hypotheses:

**H4a:** Poor organizational performance will be less positively (or more negatively) associated with the level of CEO advice seeking from friends to the extent that a CEO has long industry tenure.

**H4b:** Poor organizational performance will be less negatively (or more positively) associated with the level of CEO advice seeking from non-friends to the extent that a CEO has long industry tenure.
**CEO experience outside a focal firm’s industry.** I argue here that CEOs of poorly performing organizations will be more confident that they can effect a change in strategy that will enhance organizational performance when they have considerable experience outside their firm’s industry. CEOs with extensive extra-industry experience will be particularly confident in their ability to re-formulate firm strategy, in large part, because they will have significant knowledge about approaches to firm strategy that are novel to the focal firm’s industry (Hambrick and Geletkanycz, 1997). CEOs with novel perspectives on strategy that they acquired from their extra-industry experience can simply adopt novel approaches to strategy in an “off the shelf” manner or develop alternative strategies by integrating some elements of extra-industry approaches with their firm’s present strategy. It is worth noting that CEOs who have little, if any, experience outside their firm’s industry are likely to be largely unaware of the potential negative effects that this lack of experience might have on their capacity to effect strategic change.

The available empirical evidence supports the view that extra-industry experience is likely to enhance executives’ capacities to envision new strategies. Studies by Boeker (1997b) and Kraatz and Moore (2002) indicate that firms show a greater capacity to change strategies when their top managers have experience in other industries, while a study by Geletkanycz and Hambrick (1997) indicates
that top managers’ extra-industry experience reduces firm tendencies to conform to industry strategic norms, a likely contributor to strategic inertia.

Managers do not need to be fully aware that their extra-industry experience will enhance their capacity to successfully effect adaptive strategic change for this experience to influence their beliefs about their abilities to effect change. The literature on the availability heuristic (e.g., Tversky and Kahneman, 1973) suggests that CEOs with significant extra-industry experience may be more confident than other CEOs that they can develop effective alternative strategies simply because it may be easier for them to think of viable new strategies.

The theory advanced in this paper indicates that, because CEOs of poorly performing firms who have extensive extra-industry experience will be particularly confident that they can effect performance-enhancing strategic change, these CEOs will be less likely to respond to firm performance problems by seeking relatively high levels of advice from executives who are friends or relatively low levels of advice from non-friends.

The conclusions drawn in this section can be summarized in the following hypotheses:

**H5a**: Poor organizational performance will be less positively (or more negatively) associated with the level of CEO advice seeking from friends to the extent that a CEO has extensive experience outside the focal firm’s industry.

**H5b**: Poor organizational performance will be less negatively (or more positively) associated with the level of CEO advice seeking from non-friends.
to the extent that a CEO has extensive experience outside the focal firm’s industry.

**Organizational size.** I argue here that CEOs of poorly performing large organizations will be more confident than CEOs of small organizations that they can effect performance-enhancing strategic change. The received wisdom is that, because large organizations are typically highly bureaucratized, it is especially challenging to successfully change the strategic behavior of large firms. But, as Haveman (1993) and others (e.g., Fuentelsaz, Gomez, and Polo, 2002) have argued, there are number of reasons to believe that it may be easier for CEOs of large organizations to effect change. Large organizations may have a greater capacity to successfully undertake programs of strategic change, in large part, because they tend to have more slack resources than smaller firms. Slack resources are an important facilitator of firm adaptation (Cyert and March, 1963; Thompson, 1967), and are likely to support efforts to effect strategic change (Bourgeois, 1981). Slack resources also buffer organizations from the risks associated with change (Hannan and Freeman, 1989) and slack resources can aid an organization in “weathering the storm” while it pursues new strategic initiatives. Large organizations are also simply more likely to have the critical mass of resources necessary to initiate a program of significant change (Haveman, 1993). Finally, large organizations are better able to overcome significant environmental constraints on strategic change (Pfeffer and Salancik, 1978).
A significant number of studies demonstrate that the change-enhancing attributes of large organizations appear to overwhelm any change-inhibiting effects of greater bureaucratization (Haveman, 1993; Zajac and Kraatz, 1993; Boeker, 1997a; Boeker, 1997b; Dass, 2000; Fuentelsaz, Gomez, and Polo, 2002). Further, the available evidence suggests that large size may play an especially important role in facilitating change among poorly performing firms (Barker and Duhaime, 1997; Barker and Barr, 2002).

CEOs’ assessments of their organizations’ resources (e.g., the availability of slack resources) are likely to be central to their general responses to performance problems and in the forefront of their minds as they evaluate their capacity to effect a turnaround. Thus, the resources implications of firm size are likely to have important effects on CEOs’ subjective beliefs about their abilities to effect performance-enhancing change. Cameron, Kim, and Whetten (1987) note that, because the allocation of firm resources is among the central duties of top managers in all organizations, resource availability is likely to be highly salient to top managers of firms experiencing performance problems. In separate research, Cameron and colleagues (Cameron, Whetten, and Kim, 1987) specifically argue that managers of small firms may be more susceptible to dysfunctional responses to decline because they often find themselves lacking the critical organizational resources that they need to improve their organizations’ circumstances. Barker and Mone (1998) add that managers of smaller firms may also be especially likely
to manifest threat-rigidity-like responses to performance problems because small organizations’ limited slack resources make them more vulnerable to outright failure in the face of sustained performance difficulties (see also Cameron, Whetten, and Kim, 1987).

Taken together, the above discussion suggests that CEOs of large organizations facing performance problems will be more confident than CEOs of smaller organizations that they can effect performance-enhancing strategic change. The theoretical framework advanced in this paper indicates that, as result, these CEOs will be less likely to seek relatively high levels of advice from friends and/or less likely to seek low levels of advice from non-friends.

The conclusions drawn in this section can be summarized in the following hypotheses:

**H6a:** Poor organizational performance will be less positively (or more negatively) associated with the level of CEO advice seeking from friends to the extent that the organization that a CEO manages is large.

**H6b:** Poor organizational performance will be less negatively (or more positively) associated with the level of CEO advice seeking from non-friends to the extent that the organization that a CEO manages is large.

*Scope of organizational product/service offerings.* I argue here that CEOs of poorly performing organizations will be more confident that they can effect performance-enhancing strategic change when they manage organizations that offer a wide, rather than a narrow, range of products or services. Ruef (1997) has recently suggested a number of reasons why organizations with a wide range
of product or service offering are particularly able to undertake strategic change. In a broad sense, CEOs of “generalist” organizations (i.e., organizations that offer many products or services) simply have greater “degrees of freedom” as they consider possible shifts in strategy. CEOs of organizations with large numbers of services can be recombine those services in many different ways in an effort to formulate a new product/service strategy and these CEOs can easily jettison existing product or service lines to pursue new strategies.

Managers do not need to be fully aware of the effects that their firms’ product/service offerings are likely to have on their abilities to effect change in order for their firms’ product/service offerings to influence their beliefs regarding their capacities to effect adaptive change. The literature on the availability heuristic (e.g., Tversky and Kahneman, 1973) suggests that CEOs of firms with a large number of products or services may be more confident than other CEOs that they can successfully effect adaptive strategic change simply because they can think of a greater number of viable alternative strategies.

Beyond the above, CEOs of organizations with narrow product or service offerings face a number of unique constraints as they seek to re-formulate firm strategy. In particular, “specialist” organizations (i.e., organizations that offer few products or services) often face competency traps (Levitt and March, 1988) and organizational identity constraints that will be salient to firm managers, and which
are likely to make it more difficult for CEOs of these organizations to both conceive of and successfully implement changes in strategy.

The theoretical framework advanced in this paper indicates that, because CEOs of organizations with broad product or service offerings will be more confident than CEOs of organizations with more narrow offerings that they can effect performance-enhancing strategic change, they will be less likely to seek high levels of advice from executives of other firms who are friends and/or more likely to seek high levels of advice from executive who are not friends.

The discussion in this section suggests the following formal hypotheses:

**H7a:** Poor organizational performance will be less positively (or more negatively) associated with the level of CEO advice seeking from friends to the extent that the organization that a CEO manages offers many products or services.

**H7b:** Poor organizational performance will be less negatively (or more positively) associated with the level of CEO advice seeking from non-friends to the extent that the organization that a CEO manages offers many products or services.

**Rival aggressive competitive behavior.** I argue here that CEOs of relatively poorly performing organizations will be less confident that they can effect performance-enhancing strategic change when they believe that key rival organizations are competing aggressively with their firm. Intense rivalry in a firm’s market represents an important source of environmental uncertainty for top managers (Dess and Beard, 1984) and, thus, CEOs who face threatening competitive environments are likely to be less certain about the ultimate
performance effects of any strategic change that they undertake. In uncertain environments, CEOs are likely to be less certain that their strategic initiatives will have their desired effects and, thus, CEOs of firms that face intense competition from key rivals will tend to be less certain that any change in strategy that they might undertake will have positive effects on firm performance. Because CEOs will be less certain about the ultimate success of their strategic initiatives when their organizations face aggressive rivals, we should anticipate that CEOs of poorly performing organizations that operate in highly competitive markets will be less confident than CEOs facing more accommodating competitive conditions that they can effect performance-enhancing strategic change.

Consistent with the theory advanced in this paper, because these CEOs will be less confident in their ability to effect changes in strategy that will ultimately enhance firm performance, they will be more prone than CEOs that face less intense competition to seek relatively high levels of advice from friends and/or relatively low levels of advice from non-friends.

The conclusions drawn in this section can be summarized in the following hypotheses:

**H8a:** Poor organizational performance will be more positively (or less negatively) associated with the level of CEO advice seeking from friends to the extent that a CEO believes that rival organizations are competing aggressively with his/her firm.

**H8b:** Poor organizational performance will be more negatively (or less positively) associated with the level of CEO advice seeking from non-friends
to the extent that a CEO believes that rival firms are competing aggressively with his/her firm.

**CEO advice seeking and organizational strategic change.** Prior discussion indicated that, for a number of reasons, executives who are personal friends of a CEO will be more likely than non-friends to offer information and advice that supports and affirms a CEO’s strategy-related beliefs. Managers who are friends tend to hold views that are similar (Galaskiewicz and Burt, 1981; Rice and Aydin, 1991; Ibarra and Andrews, 1993) both because similarity in views is an important promoter of the formation of social ties (Lazerfeld and Merton, 1954; McPherson and Smith-Lovin, 1987; Marsden, 1988; McPherson, Smith-Lovin, and Cook, 2001) and because social ties, once formed, are a conduit of social influence processes that increase the similarity of the beliefs held by people who share those ties (Erickson, 1988; Marsden and Friedkin, 1993). Executives who hold strategy-related beliefs that are similar to those held by a particular CEO will be especially likely to provide the CEO with advice that supports his or her pre-existing perspectives on strategy. Executives who are friends are also particularly likely to offer affirming views because people face strong social obligations to provide social support to their friends, especially when their friends are facing difficult times (Allan, 1979; Silver, 1990; Wellman and Wortley, 1990; Ibarra, 1995; Dugan and Kivett, 1998).
Thus, presuming that the strategies of most firms reflect their CEOs’ strategy-related beliefs to some considerable degree (Finkelstein and Hambrick, 1996), CEOs of relatively poorly performing firms who seek relatively high levels of advice from friends will be more certain than CEOs who seek relatively little advice from friends that their strategy-related beliefs are correct and that, therefore, their firm’s current strategy will ultimately prove successful. Similar effects can be expected to result from low levels of advice seeking from executives who are non-friends.

CEOs who are more certain about the ultimate efficacy of current firm strategy will see less need to undertake strategic change, even in the face of organizational performance difficulties. Given that top managers have substantive influence over the degree to which firms change their strategies (Finkelstein and Hambrick, 1996), we should expect that CEOs’ views about the need for strategic change will be reflected in the actual degree to which firms undertake strategic change and, thus, firms whose CEOs see little need for change will pursue relatively low levels of change.

Taken together, the above discussion suggests that high levels of advice seeking from friends and low levels of advice seeking from non-friends will be associated with relatively low levels of strategic change. A previously cited study by McDonald and Westphal (forthcoming) which examined the effects of CEO advice seeking on the behavior of large corporations, found that both high levels
of advice seeking from friends and low levels of advice seeking from non-friends was associated with relatively low levels of change in firms’ diversification strategies.

The discussion in this section can be summarized in the following formal hypotheses:

**Hypothesis 9a (H9a):** The level of CEO advice seeking from friends will be negatively associated with the level of subsequent firm strategic change.

**Hypothesis 9b (H9b):** The level of CEO advice seeking from non-friends will be positively associated with the level of subsequent firm strategic change.

Empirical support for these hypotheses would serve to replicate the findings from the study by McDonald and Westphal in a new research context.

The hypotheses presented are summarized in the conceptual models that appear in Figures 1 and 2.
CHAPTER 3: RESEARCH METHODOLOGY

Context.

This dissertation tests the theoretical predictions outlined above using data on a national sample of hospitals and their top managers. The healthcare industry is a particularly appropriate context in which to study how organizational performance problems might influence the advice-seeking behaviors of top executives. It is an industry in which a relatively large number of organizations have recently had (and continue to have) significant performance difficulties (Meyer, Goes, and Brooks, 1993; Scott, Ruef, Mendel, and Caronna, 2000; Haveman, Russo, and Meyer, 2002). Further, 13 interviews with hospital CEOs and industry experts done in anticipation of the present research suggested that hospital CEOs might generally seek more advice and have greater variance in the amount of advice they seek than has been reported in studies of advice seeking by CEOs of large corporations (e.g., McDonald and Westphal, forthcoming).

Preliminary interviews also suggested that CEOs rely particularly heavily on information and advice from CEOs of other hospitals. High levels of intra-industry advice seeking should not be surprising given that competition between hospitals is generally very localized (D’Aunno, Succi, and Alexander, 2000) and, particularly in metropolitan areas, many of a hospital’s nominal competitors may not be true competitors because they are part of the same multi-hospital system as a focal hospital (Scott, Ruef, Mendel, and Caronna, 2000). Given the above, the
empirical analyses in this dissertation focus specifically on CEO advice seeking from CEOs of other hospitals.

As previously suggested, a significant number of hospitals have recently experienced poor financial health and financial difficulties have been, to some significant degree, the by-product of declining patient admissions at some hospitals (D’Aunno, Succi, and Alexander, 2000). A number of forces including demographic changes and increasingly competitive behavior by rival hospitals have been important contributors to slow growth or decline in some hospitals’ patient bases (Alexander, Fennel, and Halpern, 1993; Scott, Ruef, Mendel, and Caronna, 2000). In this light, the empirical analyses in this dissertation focus on CEO advice seeking in response to relatively poor growth performance (i.e., relatively low growth or decline in inpatient admissions). The literature on organizational decline certainly suggests that poor growth performance will be threatening to hospital CEOs (e.g., Barker and Barr, 2002).

A key form of strategic initiative taken by hospitals is the addition of new services and the addition of new services represents an important form of strategic change by hospitals (Ketchen, Thomas, and Snow, 1993; Thomas, Clark, and Gioia, 1993; Ruef, 1997; Ketchen and Palmer, 1999). A hospital’s service offerings are central to its ability to attract and retain physicians and their patients (D’Aunno, Succi, and Alexander, 2000). Physicians generally prefer to practice at hospitals with the most comprehensive service offerings and, thus, hospitals
with a greater range of services are better able to attract and retain physicians and patients (Succi, Lee, and Alexander, 1997). Hospitals expand their service offerings with an eye on increasing their patient base and, thus, the addition of hospital services is likely to be a critical part of a CEOs efforts to counter low growth in or decline in the number patients served by their hospital (i.e., hospital admissions) (D’Aunno, Succi, and Alexander, 2000). In this light, the empirical analyses in this dissertation focus on how CEO advice seeking influences the level of hospital strategic change, as indicated by the number of new services added by a particular hospital.

Sample and data collection.

The sample frame for this study included all general hospitals in the United States with at least 100 beds that met the following criteria:

1. The hospital was not managed by a city, state, or local government.

Government-run hospitals were excluded from the analysis because they do not face the same demands that non-government hospitals face to respond to performance problems like declining admissions, and government-run hospitals also encounter special constraints on their capacity to respond to performance difficulties (D’Aunno, Succi, and Alexander, 2000).

2. The hospital functioned in a local market in which there was at least 1 other hospital that met the specified criteria. This criterion was imposed because this study is, in part, concerned with the impact of the competitive behavior of a focal
firm’s rivals on CEO advice seeking, suggesting that is sensible to include in the sample frame only hospitals with at least one significant local rival (see D’Aunno, Succi, and Alexander, 2000 for a similar sampling strategy).

The final sample frame included 964 hospitals.

Data for the following theoretical variables were collected via a mail survey of hospital CEOs (see Appendix 1 for a copy of the survey): CEO advice seeking and friendship ties, CEO position tenure, CEO industry experience, CEO experience in other industries, and CEO assessments of competitor aggressiveness. Data on CEO age, a control variable, also came from the CEO survey. Data on hospital growth performance, size, and service offerings, as well as all other control variables, came from the American Hospital Association’s Annual Guide, an archival data source.

The CEO survey was mailed to all CEOs in the sample frame in May 2002. Among other things, the survey asked CEOs to identify, by first and last names, CEOs of other hospitals whom they had sought out for advice during 2001. Response rates for surveys of top executives are notoriously low (Westphal, 1998) and, given the sensitivity of many of the items, the response rate for the survey used in this research might have been expected to be especially low. In this light, a number of efforts including the execution of a qualitative pre-test of the survey instrument as well as the use of multiple mailings to potential respondents were undertaken to maximize the response rate.
A total of 141 CEOs returned a completed survey, for a response rate of approximately 15 percent. This response rate is comparable to or exceeds the rate for a number of recently published survey studies of top executives (e.g., Hambrick, Geletkanycz, and Fredrickson, 1993 [20%]; Simons, Pelled, and Smith, 1999 [6%]) and it is also greater than the 10 to 12% response rate typical of mail surveys of top executives (Hambrick, Geletkanycz, and Fredrickson, 1993).

Although the survey response rate is comparable to that of a number of recent survey studies of top managers, the generally low response rate highlights the question of the extent to which responding CEOs and their hospitals are representative of the larger sample frame, especially along dimensions that are of theoretical interest (e.g., CEO position tenure). In this light, the undertaking of a formal assessment of potential differences between responding and non-responding CEOs (and their hospitals) was especially necessary.

Results from a Kolmogorov-Smirnov test for potential sources of non-response bias (i.e., substantive differences between respondents and non-respondents) indicated that there were, in fact, significant differences between respondents and non-respondents across predictor variables being studied in this dissertation. Specifically, responding CEOs were less experienced and managed smaller hospitals than non-responding CEOs.
In light of these differences, sample selection modeling techniques (Heckman, 1979) were used in an effort to control for the effects of non-response bias that might be generated by these substantive differences between respondents and non-respondents. The selection model included all predictor variables for which archival data were available. The total amount of variance explained in predicting whether a particular CEO responded to the survey was quite modest however (approximately 5%). In this light, it should be acknowledged that only a small portion of any potential sample selection bias has been effectively controlled for in the analyses presented.

It should be noted that, in models predicting CEO advice seeking from friends and non-friends, complete archival data were available for only 70 of the 141 hospitals managed by responding CEOs. Thus, 70 observations were included in these analyses. In analyses predicting strategic change, complete archival data were available for 73 of 141 hospitals. Therefore, 73 observations were included in these analyses. However, it seems reasonable to assume that the process that led to the existence of incomplete archival data for observations for which a survey was received was largely random, and thus the loss of these observations should not have substantive implications for the degree to which the final analyzed sample was of representative of the larger population of hospital CEOs and their hospitals.
See Table 5 for a summary of the factors that determined the number of observations ultimately included in the final analyses.
Measures.

**CEO advice seeking.** CEO advice seeking was measured via the survey questionnaire sent to CEOs. Executives were asked to list the first and last names of CEOs of other hospitals that they had sought out for information and advice about strategic issues (i.e., “the key challenges and opportunities facing your hospital”) in the year t (2001). CEOs were also asked to report the number of times that they had sought out each of the named executives during the specified year. CEOs were further asked to indicate which of their advice contacts they would consider to be personal friends rather than mere acquaintances.

**Hospital growth performance.** This study focuses on the effects of hospital growth performance on CEO advice seeking. Growth performance in this context is an indicator of a hospital’s capacity to attract physicians and their patients, a capacity which is a critical determinant of the long-term financial health of a hospital as well as its ultimate ability to survive (D’Aunno, Succi, and Alexander, 2000; Scott, Ruef, Mendel, and Caronna, 2000). Growth performance has been the focal independent variable in recent studies of firms’ strategic responses to performance difficulties (e.g., Boeker, 1997a). Organizational decline is likely to be especially threatening to top managers (e.g., Barker and Barr, 2002) and a significant portion (28%) of sample hospitals experienced declining admissions during the study period. Growth performance is an important performance metric in the healthcare industry that has been
demonstrated to have important implications for executive behavior in prior research (e.g., Alexander, Fennel, and Halpern, 1993).

Growth performance was assessed in this study in terms of the change in inpatient admissions over the 1999 (t-2) to 2000 (t-1) period. Following prior studies of manager and firm responses to performance problems, this dissertation employs a continuous indicator of organizational performance (e.g., Boeker, 1997a). Poor growth performance is indicated when a sample hospital displayed a decline in, or relatively low growth in, inpatient admissions over the period. The worst performing hospitals are those that experienced the greatest decline in admissions and the best performing hospitals are those that experienced the greatest growth in admissions.

**CEO position tenure.** CEO position tenure was measured in terms of the total number of years a CEO had been the head of his or her current hospital, as reported by a responding CEO.

**CEO healthcare industry experience.** CEO healthcare industry experience was assessed in terms of the total number of years a CEO had worked in the healthcare industry, as reported by a responding CEO.

**CEO experience outside the healthcare industry.** CEO experience in organizations outside the healthcare industry was evaluated in terms of the number of years a CEO had worked outside the healthcare industry, as reported by a responding CEO.
**Hospital size.** Hospital size was measured in terms of the number of inpatient admissions for a particular hospital in the year t-2 (1999).

**Breadth of hospital service offerings.** The extensiveness of a hospital’s resources was assessed in terms of the total number of services that a hospital offered in the year t-1 (2000).

**Rival hospital aggressiveness.** The aggressiveness of rival hospitals was assessed using a 3-item perceptual measure. CEOs were asked to use a 8-point Likert scale to indicate the extent to which they agreed or disagreed with the following 3 statements:

1. …my hospital’s significant competitors, taken as a whole, aggressively pursued initiatives designed to capture market share from my hospital.
2. … my hospital’s significant competitors, taken as a whole, aggressively pursued initiatives designed to attract patients and physicians that were being served by my hospital.
3. … my hospital’s significant competitors, taken as a whole, aggressively competed with my hospital for market share.

Cronbach’s alpha, an indicator of inter-item reliability, was .97 for the 3 items.

**Hospital strategic change.** As previously discussed, changes in hospital service offerings represent an important element of shifts in hospital strategy and, thus, the level of hospital strategic change is operationalized as the number of new
services that a CEO expected to be added for a particular year. The services which a hospital offers are a defining characteristic of a hospital’s strategy (Ruef, 1997) and the addition of hospital services is among the most widely used indicators of strategic change in studies of change in the healthcare context (Goodstein and Boeker, 1991; Ketchen, Thomas, and Snow, 1993; Thomas, Clark, and Gioia, 1993; Ruef, 1997; Ketchen and Palmer, 1999; Haveman, Russo, and Meyer, 2001). The CEO survey asked CEOs to designate the specific services (e.g., open heart surgery, magnetic resonance imaging (MRI), inpatient adult psychiatric services) that they expected would be added in the period t+1 (2002), as well as those that would be added in the period t+2 (2003).

**Control variables.** A number of control variables were included in models predicting the level of CEO advice seeking from friends and non-friends.

**Total advice interactions.** Adversity might have effects on a CEO’s general propensity to seek advice from both friends and non-friends. Thus, for example, high levels of advice seeking from friends in the context of adversity might simply be a by-product of elevated levels of advice seeking in general. Consequently, I control for the total number of advice interactions reported by a CEO for the period t (2001).

**Number of friends.** Because the number of advice interactions a CEO has with executives who are friends (or non-friends) is ultimately contingent on the number of executive friends that a CEO has, I control for the total number of
executive friends reported by a responding CEO. Independent of items related to advice seeking, CEOs were asked to identify by name CEOs of other hospitals that they would consider to be friends.

**Number of advisors.** Because larger advice networks may contain greater numbers of non-friends advisors (weak ties) (Burt, 1992), I control for the total number of CEO advisors named by a focal CEO.

**CEO gender.** Psychological research indicates that women are generally more willing than men to seek help and advice (see Addis and Mahalik, 2003 for a review) and, in this light, I initially conjectured that women CEOs might be more willing to seek advice (or more willing to admit that they actually sought advice). I further conjectured that women might display a greater tendency to seek advice from non-friends because they would, given propensities to homophily in friendship networks, probably have fewer CEO friends than male CEOs (Ibarra, 1993).

**Number of personnel.** Hospitals may differ in the human resources that they have available that can be devoted to gathering external information. CEOs’ external advice-seeking behaviors may be systematically influenced by the availability of these kinds of alternative means for gathering external information. I control for the number of hospital personnel as a crude indicator of a hospital’s external information gathering capability.
Hospital system membership status. CEOs of hospitals that are member of multi-hospital system will tend to have greater access to the advice of CEOs of other system hospitals. This formal access may reduce a system CEO’s relative need to rely on the advice of CEOs who are personal friends. Therefore, I control for whether a responding CEO’s hospital is or is not a member of a multi-hospital system.

Hospital for-profit versus non-profit status. For-profit and non-profit hospitals differ in important ways (Ruef, 1997; D’Aunno, Succi, and Alexander, 2000) and these differences might reasonably be expected to have substantive effects on CEO advice seeking. Therefore, I control for whether a responding CEO’s hospital is for-profit or non-profit.

Change in hospital total expenses. Some hospitals may be purposefully reducing the size of the patient base they serve as part of a conscious shift in strategy. Presumably, such a change in strategy would, in most instances, be accompanied by a purposeful reduction in hospital expenses (e.g., through a systematic workforce reduction). To control for instances in which reductions in hospital admissions are part of a conscious hospital strategy, I include the variable “changes in total hospital expenses” over the t-2 (1999) to t-1 (2000) period in models predicting CEO advice seeking.

Below I discuss variables included as controls in models predicting the level of firm strategic change.
**Total advice interactions.** Advice interactions with friends or non-friends are likely to be especially consequential when they make up a large portion of a CEO’s total advice interactions. In addition, high levels of advice from all sources might contribute to CEOs’ willingness and ability to undertake strategic change. I, therefore, control for the total number of CEO advice interactions in the year t (2001).

**CEO position tenure.** There is a fair amount of evidence that CEOs with long position tenure pursue relatively less strategic change than CEOs who have been at their jobs for shorter periods (e.g., Finkelstein and Hambrick, 1990). In this light, I control for CEO position tenure as reported in the CEO survey.

**CEO healthcare industry experience.** Existing empirical evidence indicates that CEOs with extensive industry experience may also demonstrate greater commitment to a firm’s current strategy (e.g., Hambrick, Geletkanycz, and Fredrickson, 1993) and CEOs with long-industry tenure may show a special unwillingness to add services that represent industry innovations. I therefore control for CEO healthcare industry experience as reported in the CEO survey.

**CEO experience outside the healthcare industry.** Consistent with prior discussion, CEOs with greater experience outside the healthcare industry are likely to be better able to formulate viable changes in firm strategy and therefore they are likely to pursue greater strategic change. Given this, I control for CEOs’ extra-industry experience as reported in the CEO survey.
**CEO age.** Available research suggests that older CEOs are less willing to undertake significant programs of strategic change (Grimm and Smith, 1991; Thomas, Litschert, and Ramaswamy, 1991; Wiersema and Bantel, 1992). Therefore, I control for CEO age.

**Breadth of hospital service offerings.** The number of services that a hospital will add in future periods is likely to substantively constrained by the total number of services that it currently offers. Therefore, I control for the total number of services offered by a hospital in the year t-1 (2000).

**Number of services recently added.** The number of services that a hospital adds will also be affected by the number of services that it has recently added. Therefore, I control for the number of services added over the t-2 to t-1 period (1999 to 2000). In models predicting the number of services to be added in 2003, I also control for the number of services added in 2002.

**Hospital growth performance.** Hospitals are likely to add fewer services when they are experiencing low growth or decline in the number patients that they serve. I, therefore, control for the change in hospital admissions over the t-2 to t-1 period (1999 to 2000), taking into account a hospital’s baseline number of patients (i.e., the number patients a hospital served in the t-2 period (1999).

**Rival hospital aggressiveness.** Hospital CEOs may be especially likely to seek to add services to enhance hospital competitiveness when rival hospitals have been behaving aggressively or are expected to behave aggressively in the
near term. I therefore control for CEOs’ assessments of the aggressiveness of rival hospitals during the t period (2001) and CEOs’ expectations for rival aggressiveness over the t+1 and t+2 periods (2002 to 2003).

*Multi-hospital system membership status.* Hospitals may have a reduced need to add services to remain competitive when they can draw on the capabilities of local system hospitals. Therefore, I control for whether a hospital was or was not a member of a multi-hospital system.

**Analysis.**

In models predicting the level of CEO advice seeking from friends and non-friends I used zero-inflated negative binomial regression. Negative binomial regression is appropriate when a count dependent variable is over-dispersed (Maddala, 1983) and, in the present analysis, the standard deviation of the number of CEO advice interactions with friends and non-friends was roughly twice the mean.

The zero-inflated form of the negative binomial technique is appropriate when the dependent variable in an analysis takes on a value of zero (0) for a substantial number of observations (Greene, 1993).

Interaction variables were constructed using the product-term approach and component variables were centered in an effort to avoid multi-collinearity.

In models predicting the level of firm strategic change, I used zero-inflated Poisson regression. The zero-inflated form of Poisson regression is appropriate
when a count dependent variable has a value of zero (0) for a substantial number
of observations (Greene, 1993). CEOs of a significant number of hospitals
indicated that their organizations would be adding no services for the year t+1
CHAPTER 4: RESULTS

Table 1 provides descriptive statistics and bivariate correlations.

Table 2 reports the results of the zero-inflated negative binomial regression analyses predicting the level of CEO advice seeking from friends and non-friends. Figures 3 through 10 provide graphs for those interaction hypotheses supported by the analyses in Table 2. Before discussing the statistical results and their support or lack of support for the hypotheses predicting CEO advice seeking from friends and non-friends, it is necessary to consider the problems of low statistical power that exist given that the relevant analytical models (Table 2) include 70 observations and 22 variables.

Most obviously, low statistical power increases the likelihood that hypothesized relationships that appear to be statistically insignificant in the presented analyses might prove to be significant if substantially more observations could be included in the models. In this light, null findings should be interpreted with some caution. However, it should be noted that most null findings in the models presented (Table 2) are not close to being statistically significant and thus the substantive implications of the general lack of statistical power for the elevation of the danger of incorrectly rejecting hypotheses may be limited.

Other potential statistical issues may result when models with a relatively small number of observations include a relatively large number of variables. In
particular, the resulting lack of statistical power may contribute to instability in
the regression coefficients (Greene, 1993). Supplementary analyses were
undertaken to assess whether there is significant instability in the coefficients for
the theoretical variables. Specifically, models predicting CEO advice interactions
with friends and non-friends were run which included only the interaction terms
and their component variables. These models contained 13 (rather than 22)
variables. Below, I compare the results across these trimmed models and the full
models (i.e., the models including all controls) and try to draw some [preliminary]
conclusions from these comparisons about whether low power seems to have
resulted in substantial instability in the regression coefficients for the theoretical
variables.

In both the analyses predicting CEO interactions with friends and the
analyses predicting CEO interactions with non-friends, standard errors for the
coefficients for the theoretical variables were relatively stable across the trimmed
(13 variable) and full (22 variable) models. In the analyses predicting CEO
interactions with friends there was one instance of a sign change in the
coefficients. There were no sign changes across the trimmed and full models
predicting CEO advice seeking from non-friends. There was a “dramatic” change
in the size of one of the theoretical variable coefficients for the analyses
predicting CEO advice seeking from friends. (I define a dramatic change here as
one in which a coefficient changes in magnitude by an order of 5 or more – that
is, it is 5 times or more larger in one version of a model than it is in the other).
The effect for this variable (the interaction between poor growth performance and CEO industry tenure) is statistically significant in the full model, but is not significant in the trimmed model. There was also a dramatic change in the size of one of the theoretical variable coefficients for the models predicting CEO advice seeking from non-friends. The effect for this variable (the interaction between poor growth performance and CEO extra-industry experience) was non-significant in both the trimmed and full models.

The comparisons outlined above would seem to indicate that there is no overwhelming problem of coefficient instability resulting from low statistical power. There are, however, some limited peculiarities in the results that would suggest that at least some caution should be exercised in interpreting the statistical findings.

The results from Model 3 in Table 2 indicate strong support for Hypothesis 1a, which proposed that relatively poor organizational performance would be positively associated with the number of CEO advice interactions with friends. In this light, the opposing prediction, Hypothesis 2a, suggested by theories of failure-induced change, was clearly not supported. Model 4 indicates support for Hypothesis 1b, which posited that poor organizational performance would be negatively associated with the level of CEO advice seeking from non-friends. The contrasting Hypothesis 2b suggested by a failure-induced change
theory perspective was, therefore, not supported. Taken together, these findings support a threat-rigidity perspective, and not a failure-induced change perspective, regarding the main effects of poor firm performance on CEOs’ information search behaviors.

Results for predictions regarding the effects of the relevant interaction terms on CEO advice seeking from friends and non-friends are reported in Models 5 and 6 (Table 2), respectively. The results indicate that Hypothesis 3a, which predicted that poor performance would be less positively (or more negatively) related to the level of CEO advice seeking from friends for CEOs with long position tenure, was not supported. Hypothesis 3b, which predicted that poor performance would be less negatively (or more positively) related to the level of CEO advice seeking from non-friends for CEOs with long position tenure, was supported. The graph of this interaction effect in Figure 7 is generally consistent with the results in Table 2. Moreover, the graph indicates a “cross-over” effect such that, while CEOs with low (and even average position tenure) reduce the amount of advice they seek from non-friends as firm performance declines, CEOs with high position tenure actually increase the amount of advice they seek from non-friends as performance declines. Hypothesis 4a, which predicted that poor performance would be less positively associated with the level of CEO advice seeking from friends for CEOs with long industry tenure, was supported. The graph of this interaction (Figure 3) is generally consistent with the results in Table
Note, however, that the slope of the lines for all levels of CEO industry experience is contradictory to the slope that is indicated by the coefficient for the main effect of performance problems on CEO advice seeking from friends (Table 2), and hence it is difficult to draw definitive conclusions about the moderating effects of CEO industry experience from the graphed results. Hypothesis 4b, which predicted that poor performance would be less negatively associated with the level of CEO advice seeking from non-friends for CEOs with long industry tenure, was not supported.

Hypothesis 5a, which predicted that poor performance would be less positively associated with the level of CEO advice seeking from friends for CEOs with extensive experience outside the healthcare industry, was supported. The graph of this interaction (Figure 4) is generally consistent with the results in Table 2. Hypothesis 5b, which predicted that poor performance would be less negatively related to the level of CEO advice seeking from non-friends for CEOs with extensive experience outside the healthcare industry, was not supported.

Hypothesis 6a, which predicted that a positive relationship between poor performance and the level of CEO advice seeking from friends would be less positive for CEOs of large hospitals, was supported. The graph of the results in Figure 5 supports this conclusion. Moreover, the graph indicates a “cross-over” effect such that, while CEOs of small (and even average size) hospitals increase the amount of advice they seek from friends as performance declines, CEOs of
large hospitals actually reduce their reliance on friends’ advice as performance worsens. Hypothesis 6b was also supported. Hypothesis 6b predicted that a negative relationship between poor performance and the level of CEO advice seeking from non-friends would be less negative for CEOs of large hospitals. The graph in Figure 8 is generally consistent with this conclusion and it indicates a “cross-over” effect such that, while CEOs of small (and even medium size) hospitals reduce the amount of advice they get from non-friends as performance declines, CEOs of large hospitals actually increase the frequency with which they seek out non-friends.

Hypothesis 7a, which predicted that a positive relationship between poor performance and the level of advice seeking from friends would be less positive for CEOs of hospitals that offered a large number of services, was not supported. Hypothesis 7b was supported. Hypothesis 7b predicted that a negative relationship between poor performance and the level of advice seeking from non-friends would be less negative for CEOs of hospitals that offered a large number of services. The graph of this hypothesis in Figure 9 supports the finding reported in Table 2.

Hypothesis 8a, which predicted that a positive relationship between poor performance and the level of CEO advice seeking from friends would be more positive for CEOs that faced aggressive competitors, was supported. The relevant graph in Figure 6 is consistent with the results in Table 2. Hypothesis 8b, which
predicted that a negative relationship between poor performance and the level of 
CEO advice seeking from non-friends would be more negative for CEOs that 
faced aggressive competitors, was also supported. The graph in Figure 10 is 
consistent with the results in Table 2.

Table 4 provides a summary of the results for models predicting the level 
of CEO advice seeking from friends and non-friends.

Table 3 reports the results for zero-inflated Poisson regression analyses 
predicting the level of organizational strategic change (i.e., the number of services 
CEOs projected would be added by their firm). The results indicate that the level 
of CEO advice seeking from friends was negatively associated with the amount of 
firm strategic change projected by CEOs in the year t+2, but was unrelated to the 
amount of change in the year t+1. Thus, hypothesis 9a was supported, at least for 
the t+2 period. The results further indicate that the level of CEO advice seeking 
from non-friends was positively associated with the amount of strategic change 
projected by CEOs for the year t+2, but was unrelated to the amount of strategic 
change in the year t+1. Thus, hypothesis 9b was supported at least for the t+2 
period. (Note that the symmetrical nature of the coefficients for “advice seeking 
from friends” and “advice seeking from non-friends” is due to the fact that both 
models contain as a control variable the total number of CEO advice interactions, 
which is equal to the sum of the number of interactions with friends and the 
number of interactions with non-friends).
A discussion of these results appears in the following section.
CHAPTER 5: DISCUSSION

This dissertation sought to advance understanding of how top managers search for information through their external advice networks when their firms are performing poorly, and how managers’ information search behaviors, in turn, influence how much strategic change they pursue. It began by specifying at least some of the conditions under which CEOs might be less prone to restricted information search in response to poor firm performance. Restricted search was conceptualized as relatively high levels of CEO advice seeking from executives who are friends (who tend to provide information that will bolster a CEO’s strategy-related beliefs) or relatively low levels of advice seeking from non-friends (who are more prone to providing belief-challenging perspectives). The conceptual framework developed in this dissertation argued that, for two reasons, those CEOs of poorly performing firms that should be expected to be most confident in their ability to “turn things around” would display the lowest tendencies to restricted information search. These CEOs would be less prone to engaging in restricted search, in part, because they would experience less psychological distress than less confident CEOs and, thus, would be less prone to heavy reliance on well-learned strategy-related beliefs and belief-affirming information sources. These CEOs would be also be less motivated than less confident CEOs to try to engage in the kind of cognitive re-framing efforts likely
to increase their tendencies to seek out affirming sources of information and advice.

The empirical findings generally support the conceptual framework advanced that posited that those CEOs of poorly performing firms who, because of their own professional experience or characteristics of their organizations and their organizations’ environments, should be expected to be especially confident that they can effect performance-enhancing strategic change would be the CEOs least prone to restricted search in the form of high levels of advice seeking from friends or low levels of advice seeking from non-friends. For all six (6) of the hypothesized determinants of CEO confidence, poor performance was either less positively related to the level of CEO advice seeking from friends or less negatively associated with CEO advice seeking from non-friends when CEO confidence was expected to be high. For two (2) of the determinants of CEO confidence, organizational size and perceived competitor aggressiveness, high confidence weakened the observed main effects of poor performance on CEO advice seeking from both friends and non-friends.

Examination of graphs of the statistically significant moderator effects suggests that, at least for some factors likely to influence CEO confidence, high confidence CEOs actually respond to declining performance by reducing the amount of advice they seek from friends and/or increasing the amount of advice they seek from non-friends, a pattern of advice seeking that is likely to increase,
rather than decrease, the amount of strategic change a firm pursues. (Recall that in the face of poor performance CEOs generally seek more advice from friends and less advice from non-friends). A theoretical interpretation of these “cross-over” effects that is consistent with the theory presented in this dissertation is that CEOs who are likely to be especially confident in their ability to turn things around will, because they experience less psychological distress and are more willing to engage in problem-focused coping, show a greater tendency to broaden their search for information in the ways that are suggested by a behavioral theory of the firm perspective. This is certainly not the only plausible theoretical account of these “cross-over” effects. For example, it may be that CEOs who are likely to be especially confident show greater tendencies to seek out friends when performance is good for any of a number of reasons including hubris or risk aversion in the domain of gains among these CEOs.

A separate theoretical argument was developed regarding how CEOs’ advice-seeking behaviors would influence how much strategic change they pursued. The theory presented suggested that executives who are friends would show a greater tendency than non-friends to provide information and advice that bolstered a CEO’s strategy-related beliefs and that, therefore, CEOs who sought high levels of advice from friends and/or low levels of advice from non-friends would see less need for change than CEOs who engaged in the opposite pattern of advice seeking. As a result, these CEOs were expected to pursue less strategic
change. The results support these expectations, indicating that both high levels of CEO advice seeking from friends and low levels of CEO advice seeking from non-friends were associated with low levels of projected strategic change, at least for the t+2 period. These particular findings replicate, in a general way, findings from the previously cited study by McDonald and Westphal (forthcoming). These authors found that high levels of CEO advice-seeking from friends and low levels of advice seeking from non-friends were associated with lower levels of change in the product-market and global diversification strategies of the large corporations in their sample. The findings in this dissertation suggest that this pattern of advice seeking has analogous effects on the behavior of organizations in the healthcare sector, which has at least traditionally been viewed as being distinct from the corporate sector.

This temporal pattern of results makes sense given that there is likely to be a significant time lag between CEOs’ advice seeking and any subsequent strategic change. Shifts in strategy are, by definition, substantial undertakings and the formulation of and ultimate implementation of strategic-level initiatives typically takes significant time (Wiersema and Bantel, 1992). A number of studies have suggested, and found empirical support for, a 2-year time lag between the initial stages of strategic decision making (e.g., strategic advice seeking) and the ultimate implementation of relevant strategic initiatives (Wiersema and Bantel, 1992; McDonald and Westphal, forthcoming). For example, we can easily
imagine that it is likely that more than one year would elapse between advice-seeking by a hospital CEO inspired by poor hospital performance and the actual addition of a complex, new hospital service (e.g., open heart surgery).

Taken as a whole, the results of this study generally support the core thesis of the conceptual framework developed: CEOs of poorly performing firms who, because of their own backgrounds, characteristics of their organizations, or characteristics of their organizations’ environments, might be expected to be most confident in their ability to effect performance-enhancing strategic change will be the CEOs least prone to engaging in a pattern of information search that reduces their actual propensities to pursue firm strategic change.

A principal contribution of this research is to the long-standing, if often unjoined debate (Ocasio, 1995), between threat-rigidity and failure-induced change perspectives on how managers and their organizations respond to performance problems. This dissertation sought to contribute to the reconciliation of these perspectives by identifying at least some of the conditions that might shape CEO tendencies to engage in restricted (or expanded) search in response to performance problems. The cognitive appraisal theory perspective developed suggests that CEOs of poorly performing firms who might reasonably be expected to be most confident that they can effect performance-enhancing strategic change will be less likely than less sure CEOs to engage in restricted information search. Given the demonstrated effects of restricted search on the amount of strategic
change firms pursue, the theory and findings presented suggest that firms whose CEOs are most confident that they can effect strategic change will be the firms that ultimately pursue the greatest level of strategic change, change that results from a recent study by Westphal and McDonald (forthcoming) indicate is likely to be adaptive in the sense that it leads to subsequent improvements in firm performance.

The theory and results further highlight the important role played by CEOs’ external advice networks in shaping how firms respond to relatively poor performance. This study provides additional evidence that CEOs of relatively poorly performing firms tend to draw on their advice networks in ways that ultimately inhibit strategic change. More importantly, the present study shifts attention to the consideration of some of the conditions under which CEOs of organizations with performance difficulties are less (or more) likely to draw on their advice networks in ways that promote strategic inertia. The theory and results presented suggest that CEOs draw on their advice networks in ways that are more likely to enable strategic change under conditions in which they are likely to be confident that they can effect strategic change that will ultimately improve performance.

This study also makes a couple of noteworthy contributions to the more general literature on managers’ social networks. While there has been considerable theorizing and empirical research regarding how the availability of
weak tie and strong tie resources in managers’ ego networks influence a range of important outcomes, including manager performance, there has been little prior consideration of the factors that might influence the degree to which managers exploit their weak ties (e.g., non-friends). There has been an implicit assumption in much of the network literature that people generally make full use of the social network resources at their disposal. This study offers some insights into the conditions under which managers (and, for that matter, individuals in general) might draw on their weak ties resources in times of trouble.

This study also makes a substantive contribution to the literature on the potential “informational benefits” (Burt, 1992) to be derived from weak social ties. In particular, there has been relatively little prior consideration of how weak ties might influence the level of behavioral change that (individual or organizational) actors are willing and able to undertake. The theory and results presented in this research ultimately suggest how the information provided by weak ties can facilitate the pursuit of changes in behavior while the information provided by strong ties can inhibit change.

Limitations and Directions for Future Research

While the results taken as a whole offer relatively solid, (if not overwhelming), support for the overarching theory offered, it should be recognized that a full one-third of the moderator predictions offered went unconfirmed. This fact suggests consideration of the underlying reasons for the
somewhat mixed findings. One potential important contributor to the lack of more complete support for the theory in this research is the shortcomings of the measures employed. The present research examined how factors likely to determine CEOs’ confidence might moderate the effects of firm performance problems on CEOs’ advice seeking behaviors. As partial determinants, these factors represent quite distant proxies for the central construct of interest in this research. The failure to find more extensive support for the predictions that flow from the theory might, thus, have arisen because the measures employed capture the CEO confidence construct in a highly imperfect way.

This suggests a need to develop a more effective measure of the confidence construct. The most straight-forward solution here might be to undertake an effort to develop a direct, self-report measure of CEOs’ assessments of their abilities to reverse firm performance problems. As previously suggested, a serious limitation of this approach is that CEOs are likely to manifest self-serving biases in their subjective evaluations of their capacities to effect performance-enhancing change. Moreover, CEOs of poorly performing firms may be especially susceptible to these kinds of biases. Perhaps self-report items might be developed that conceal, (at least to some significant degree), the ultimate concerns of the researcher.

Although the somewhat mixed empirical findings in this dissertation might have arisen from the kinds of problems in measurement outlined above, it
should be explicitly acknowledged that the findings might be mixed because of problems with the overarching theory. Given that this dissertation is the first test of the theoretical perspective employed, there is need for additional empirical evaluation of this theory. Future research might also consider the boundary conditions under which the theories basic precepts will be more or less likely to hold.

The lack of more complete support for the moderator hypotheses offered also invites consideration of the extent to which there might be some consistent pattern such that some kinds of factors moderate the effects of poor performance on advice seeking from friends while other kinds of factors influence advice seeking from non-friends. One such pattern is that, while the CEO background variables appear to have relatively consistent effects on CEOs’ tendencies to seek the advice of friends (but limited effects on CEOs’ tendencies to seek the advice of non-friends), more “distant” factors like organizational and organization environment characteristics seem to have highly consistent effects on CEOs’ propensities to seek the advice of non-friends (but more mixed effects on CEOs’ propensities to seek the advice of friends). Future research might consider the psychological (and other) mechanisms underlying this pattern of effects.

It should be noted that use of distant proxies for CEO confidence contributes to another potential limitation of this study. Specifically, the use of distant proxies might increase the potential for plausible alternative explanations
for the results. For example, it might be argued that CEOs with long tenure rely more heavily on the advice of their friends, not for the reasons outlined in this research, but rather because they may have had greater opportunity to “test” those advice relations under adverse conditions. From this perspective, long-tenured CEOs may seek out their friends more frequently because these relations have been tested and found to be useful especially under conditions of adversity. In this light, it should be explicitly acknowledged that the use of relatively distant proxies increases the potential for plausible alternative explanations. Future research might be undertaken to specify other alternative accounts and make efforts to rule them out by analytical means.

Other limitations of the study suggest additional avenues for future research. Especially noteworthy is the fact that the present research examined only a small portion of the factors that might ultimately be expected to influence CEOs’ confidence in their abilities to reverse their organizations’ performance difficulties. For example, we might reasonably expect that CEOs’ prior success (or failure) in effecting “turnarounds” will have important implications for their confidence in their ability to formulate and implement a revision in firm strategy that might reverse their firm’s current performance problems. Future research could fruitfully consider the extent to which CEOs’ prior performance in effecting turnarounds influences their information-search behaviors.
We might also reasonably anticipate that CEOs’ personalities will influence their confidence in their ability to effect performance-enhancing change. For example, CEOs with highly internal loci of control (Rotter, 1990), who tend to strongly believe that they can exercise a great deal of personal influence over their environments, are likely to be especially confident in their capacity to bring about change that improves performance. Thus, future research might fruitfully consider the degree to which CEOs of poorly performing firms with internal loci of control are less likely to restrict their search for information and, in turn, pursue greater strategic change than CEOs with more external loci of control.

Attributes of CEO board-relations also seem likely to influence CEOs’ confidence in their abilities to effect strategic change that might ultimately improve performance. Board independence tends to reduced CEO power to determine firm strategy (Westphal, 1999) and, thus, CEOs that report to independent directors might have greater doubts in their ability to effect performance-enhancing change than CEOs who report to less independent boards. If empirically confirmed, this line of argument would suggest how higher levels of board independence could have the unintended consequence of reducing a CEOs’ capacity to undertaking strategic change in the face of organizational performance problems. McDonald and Westphal’s (forthcoming) findings suggest that this reduced capacity for strategic change is likely to have negative effects on subsequent organizational performance.
The literature on CEO “discretion” (Hambrick and Finkelstein, 1987) points to still other factors that could be considered. CEO discretion refers to the degree to which, in an objective sense, a firm’s “fate” is within the control of a CEO. When CEOs believe that their capacity to shape the fate of an organization is highly constrained they are likely to be generally less confident in their ability to reverse their organizations’ performance difficulties. In advancing the general idea of “managerial discretion”, Hambrick and Finkelstein (1987) suggested that managers’ discretion is substantially influenced by the nature of the industry that their firms operate in. Examples of industry characteristics that might be important determinants of managerial discretion include, among many others, market growth and the degree of government regulation. Managers of firms in markets that are growing slowly or industries that are highly regulated are likely to have substantially less “latitude of action” than managers in rapidly growing markets or industries with fewer regulatory constraints.

It seems to be reasonable to expect that CEOs that operate in industries where discretion is generally low will tend to view themselves as having less capacity to reverse the performance difficulties that their firms are facing. Taken together with the theory advanced in this research, this suggests that CEOs that manage firms in low discretion industries will manifest a general tendency to restricted information search in response to poor performance, a pattern of search likely to exacerbate other pressures to strategic inertia.
It is worth noting that the present study focused on an industry that would typically be characterized as offering limited managerial discretion. Hospitals operate in a relatively highly regulated environment (Haveman, Russo, and Meyer, 2001). Further, the industry is mature and, thus, recent growth has been quite limited (Scott, Ruef, Mendel, and Caronna, 2000). Many hospital CEOs also face constraints on action because they have limited structural power vis a vis important stakeholders (Alexander, Fennel, and Halpern, 1993). For example, CEOs of hospitals that are part of multi-hospital systems report to system executives who often have considerable influence over hospital strategy (D’Aunno, Succi, and Alexander, 2000). Further, the dominant role that physician play in providing hospital with crucial resources (i.e., patients) gives them special influence over the content of hospital strategy (e.g., a hospital’s service offerings) (Scott, Ruef, Mendel, and Caronna, 2000). Given the generally low discretion faced by many hospital executives, future research should consider how the factors examined in this dissertation, as well as other factors discussed above, might influence the advice-seeking behaviors of CEOs of a sample of firms across multiple industries.
### Table 1
Means, Standard Deviations, and Bivariate Correlations

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<th>Variables</th>
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<td>4. CEO advice interactions with friends</td>
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Note: Table 1 continues on the next page.
### Table 1 (cont.)
Means, Standard Deviations, and Bivariate Correlations

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<td>aggressiveness</td>
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Note: Table 1 continues on the next page.
Table 1 (cont.)  
Means, Standard Deviations, and Bivariate Correlations

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Note: Table 1 continues on the next page.
Table 1 (cont.)
Means, Standard Deviations, and Bivariate Correlations

<table>
<thead>
<tr>
<th>Variables</th>
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<tr>
<td>18. Perceived competitor aggressiveness</td>
<td>19.3</td>
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<tr>
<td>19. Hospital system member? (Yes=1)</td>
<td>.7</td>
<td>.5</td>
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<td>-.13</td>
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<td>-.07</td>
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<td>20. Hospital for-profit? (Yes=1)</td>
<td>.2</td>
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<td>-.33*</td>
<td>.04</td>
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<td>21. Change in total expenses</td>
<td>-1840.6</td>
<td>5142.5</td>
<td>.10</td>
<td>.05</td>
<td>-.30*</td>
<td>-.21*</td>
<td>-.14</td>
<td>-.09</td>
<td>.07</td>
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<td>22. # of personnel</td>
<td>1486.1</td>
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<td>.01</td>
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<td>-.29*</td>
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<td>23. # of friends</td>
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<td>-.02</td>
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<td>-.07</td>
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<td>.10</td>
<td>-.08</td>
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<td>24. # of advisors</td>
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<td>.13</td>
<td>.00</td>
<td>.13</td>
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<td>-.04</td>
<td>-.02</td>
<td>.04</td>
<td>.09</td>
<td>.23*</td>
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<td>25. CEO gender (Female=1)</td>
<td>.1</td>
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<td>.03</td>
<td>-.06</td>
<td>.09</td>
<td>.05</td>
<td>.01</td>
<td>.03</td>
<td>-.03</td>
<td>.05</td>
<td>.05</td>
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<td>.05</td>
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<td>26. CEO age</td>
<td>51.7</td>
<td>6.7</td>
<td>.76*</td>
<td>.18*</td>
<td>-.05</td>
<td>.00</td>
<td>.00</td>
<td>-.20*</td>
<td>-.04</td>
<td>.03</td>
<td>-.01</td>
<td>.11</td>
<td>.13</td>
<td>.10</td>
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<td>27. # services added (t-1)</td>
<td>2.5</td>
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<td>.02</td>
<td>-.08</td>
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<td>-.17</td>
<td>.08</td>
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<td>28. Expected rival aggressiveness</td>
<td>46.6</td>
<td>27.2</td>
<td>-.11</td>
<td>-.11</td>
<td>.23*</td>
<td>.09</td>
<td>.16</td>
<td>-.07</td>
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<td>.24*</td>
<td>.08</td>
<td>.26*</td>
<td>.07</td>
<td>-.06</td>
<td>-.17</td>
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*Correlation is significant at p<.05
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<tr>
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<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
</tr>
</thead>
<tbody>
<tr>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
<td></td>
</tr>
<tr>
<td>Growth performance (change in admissions)</td>
<td>-.00034***</td>
<td>.000078+</td>
<td>-.00085***</td>
<td>.00054**</td>
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<td></td>
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<tr>
<td></td>
<td>(.000089)</td>
<td>(.000042)</td>
<td>(.00023)</td>
<td>(.00017)</td>
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</tr>
<tr>
<td>Growth performance X CEO position tenure</td>
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<tr>
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<td>-.000013</td>
<td>-.000047*</td>
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<tr>
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<td>(.000033)</td>
<td>(.000022)</td>
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<tr>
<td>Growth performance X CEO industry experience</td>
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<td>.00017***</td>
<td>6.25 e-06</td>
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<td>(.000032)</td>
<td>(7.73 e-06)</td>
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<td>Growth performance X CEO extra-industry experience</td>
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<tr>
<td></td>
<td>.000074**</td>
<td>7.93 e-07</td>
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<tr>
<td></td>
<td>(.000024)</td>
<td>(.000017)</td>
<td></td>
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</tr>
<tr>
<td>Growth performance X hospital size (admissions)</td>
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</tr>
<tr>
<td></td>
<td>5.66 e-08*</td>
<td>-3.46 e-08**</td>
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<tr>
<td></td>
<td>(2.23 e-08)</td>
<td>(1.21 e-08)</td>
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</table>

Note: Table 2 continues on the next page.
Table 2 (cont.)
Zero-inflated Negative Binomial Regression Analyses Predicting
Number of CEO Advice Interactions with Friends and Non-Friends (N=70)

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
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</thead>
<tbody>
<tr>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
<td></td>
</tr>
<tr>
<td>Growth performance X # of hospital services</td>
<td>-.000015 (9.68 e-06)</td>
<td>-.000017* (7.37 e-06)</td>
<td></td>
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</tr>
<tr>
<td>Growth performance X perceived competitor aggressiveness</td>
<td>-.00036+ (0.00022)</td>
<td>.00033* (0.00013)</td>
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</tr>
<tr>
<td>CEO tenure</td>
<td>.038 (.038)</td>
<td>-.058*** (.017)</td>
<td>.040 (.027)</td>
<td>-.061*** (.016)</td>
<td>-.0093 (.026)</td>
<td>-.041** (.015)</td>
</tr>
<tr>
<td>CEO industry tenure</td>
<td>-.0091 (.026)</td>
<td>.039** (.013)</td>
<td>-.0050 (.020)</td>
<td>.044** (.013)</td>
<td>-.019 (.018)</td>
<td>.030** (.011)</td>
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<tr>
<td>CEO extra-industry experience</td>
<td>-.028 (.039)</td>
<td>-.0063 (.018)</td>
<td>-.018 (.030)</td>
<td>-.0097 (.018)</td>
<td>.062 (.041)</td>
<td>.0070 (.022)</td>
</tr>
<tr>
<td>Hospital size (# of admissions)</td>
<td>.000068+ (.000040)</td>
<td>.000096*** (.00019)</td>
<td>.00016*** (.00044)</td>
<td>.000076*** (.00022)</td>
<td>.00020*** (.00045)</td>
<td>.000052** (.000020)</td>
</tr>
<tr>
<td># of hospital services</td>
<td>.0025 (.012)</td>
<td>-.022** (.0066)</td>
<td>.0083 (.0094)</td>
<td>-.019** (.0066)</td>
<td>.024* (.010)</td>
<td>-.0087 (.0060)</td>
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</table>

Note: Table 2 continues on the next page.
### Table 2 (cont.)
Zero-inflated Negative Binomial Regression Analyses Predicting Number of CEO Advice Interactions with Friends and Non-Friends (N=70)

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Model 1</th>
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<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
</tr>
<tr>
<td>Hospital system member? (Yes=1)</td>
<td>.43+ (.26)</td>
<td>-.051 (.15)</td>
<td>.35+ (.21)</td>
<td>-.05 (.15)</td>
<td>.75** (.23)</td>
<td>.049 (.14)</td>
</tr>
<tr>
<td>Perceived competitor aggressiveness</td>
<td>.0088 (.025)</td>
<td>.10*** (.015)</td>
<td>.030 (.020)</td>
<td>.096*** (.015)</td>
<td>.015 (.020)</td>
<td>.081*** (.018)</td>
</tr>
<tr>
<td>Hospital for-profit? (Yes=1)</td>
<td>-.32 (.29)</td>
<td>-.29 (.22)</td>
<td>-.23 (.24)</td>
<td>-.25 (.22)</td>
<td>-.97*** (.22)</td>
<td>-.14 (.19)</td>
</tr>
<tr>
<td>Change in total expenses</td>
<td>.000010 (9.20 e-06)</td>
<td>.000015* (6.29 e-06)</td>
<td>.000022* (9.74 e-06)</td>
<td>.000011 (6.69 e-06)</td>
<td>.000038*** (9.30 e-06)</td>
<td>.000018** (6.84 e-06)</td>
</tr>
<tr>
<td># of personnel</td>
<td>-.0062* (.0028)</td>
<td>-.0054** (.0016)</td>
<td>-.0012*** (.0031)</td>
<td>-.00042* (.0018)</td>
<td>-.0018*** (.0032)</td>
<td>-.00028+ (.0016)</td>
</tr>
<tr>
<td># of friends</td>
<td>.12 (.09)</td>
<td>-.16*** (.03)</td>
<td>.095 (.063)</td>
<td>-.17*** (.034)</td>
<td>.076 (.063)</td>
<td>-.15*** (.030)</td>
</tr>
<tr>
<td># of advisors</td>
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<td>.017 (.022)</td>
<td>-.027 (.037)</td>
<td>.018 (.021)</td>
<td>.012 (.032)</td>
<td>.0040 (.018)</td>
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<tr>
<td>CEO gender (Female=1)</td>
<td>-.28 (.41)</td>
<td>-.70*** (.20)</td>
<td>-.28 (.35)</td>
<td>-.70*** (.19)</td>
<td>-.0031 (.29)</td>
<td>-.44* (.18)</td>
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<tr>
<td>Probability of survey completion</td>
<td>-.30 (2.12)</td>
<td>2.78** (1.06)</td>
<td>.40 (1.54)</td>
<td>2.42* (1.06)</td>
<td>.89 (1.26)</td>
<td>1.26 (1.98)</td>
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</tbody>
</table>

Note: Table 2 continues on the next page.
Table 2 (cont.)
Zero-inflated Negative Binomial Regression Analyses Predicting Number of CEO Advice Interactions with Friends and Non-Friends (N=70)

<table>
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<tr>
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<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
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</thead>
<tbody>
<tr>
<td>Total advice interactions</td>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
<td># CEO advice interactions with friends</td>
<td># CEO advice interactions with non-friends</td>
</tr>
<tr>
<td>Constant</td>
<td>1.02 ( .72 )</td>
<td>-.74 (.58)</td>
<td>.30 (.62)</td>
<td>-.65 (.57)</td>
<td>.63 (.59)</td>
<td>-.50 (.60)</td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-154.59</td>
<td>-161.09</td>
<td>-149.58</td>
<td>-159.53</td>
<td>-125.81</td>
<td>-152.11</td>
</tr>
<tr>
<td>Likelihood ratio (Chi-squared)</td>
<td>49.67***</td>
<td>98.76***</td>
<td>59.68***</td>
<td>101.89***</td>
<td>107.24***</td>
<td>116.71***</td>
</tr>
</tbody>
</table>

| Change in likelihood ratio (Chi-squared) | 10.01** | 3.13+ | 47.56*** | 14.82* |

+ p < .10; * p < .05; ** p < .01; *** p < .001
Standard errors are in parentheses.
Statistical tests for hypotheses are one-tailed. Tests for controls are two-tailed.
Table 3
Zero-inflated Poisson Regression Analyses Predicting Number of Services Added (N=73)

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Model 1</th>
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<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
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</thead>
<tbody>
<tr>
<td>Number of CEO advice interactions with non-friends</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Total number of CEO advice interactions</td>
<td>.00034 (0.0043)</td>
<td>-.0019 (0.0061)</td>
<td>.0033 (0.0069)</td>
<td>-.00096 (0.0055)</td>
<td>.0080 (0.0065)</td>
<td>-.016 (0.0097)</td>
</tr>
<tr>
<td>CEO position tenure</td>
<td>-.059* (0.027)</td>
<td>-.060* (0.028)</td>
<td>-.060* (0.028)</td>
<td>-.015 (0.028)</td>
<td>-.0057 (0.029)</td>
<td>-.0057 (0.029)</td>
</tr>
<tr>
<td>CEO industry experience</td>
<td>-.045+ (0.027)</td>
<td>-.043 (0.028)</td>
<td>-.043 (0.028)</td>
<td>-.0011 (0.029)</td>
<td>-.010 (0.030)</td>
<td>-.0010 (0.030)</td>
</tr>
<tr>
<td>CEO extra-industry experience</td>
<td>.0473066+ (0.0284241)</td>
<td>.0439727 (0.029116)</td>
<td>.0439727 (0.029116)</td>
<td>-.0097688 (0.0357498)</td>
<td>.00054 (0.036)</td>
<td>.00056 (0.036)</td>
</tr>
<tr>
<td>CEO age</td>
<td>.011 (0.029)</td>
<td>.010 (0.029)</td>
<td>.010 (0.029)</td>
<td>-.034 (0.031)</td>
<td>-.035 (0.031)</td>
<td>-.035 (0.031)</td>
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<tr>
<td>Number of services offered (t-1)</td>
<td>.0068 (0.012)</td>
<td>.0045 (0.013)</td>
<td>.0045 (0.013)</td>
<td>.0076 (0.012)</td>
<td>.016 (0.013)</td>
<td>.016 (0.013)</td>
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</table>

Note: Table 3 continues on the next page.
### Table 3 (cont.)
Zero-inflated Poisson Regression Analyses Predicting Number of Services Added (N=73)

<table>
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<tr>
<th>Independent variables</th>
<th>Model 1</th>
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<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of services added (t-1)</td>
<td>.049 (.042)</td>
<td>.041 (.045)</td>
<td>.041 (.045)</td>
<td>-.0051 (.048)</td>
<td>.027 (.050)</td>
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<tr>
<td>Number of services added (t+1)</td>
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<td>.098 (.079)</td>
<td>.093 (.079)</td>
<td>.093 (.079)</td>
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<tr>
<td>Change in inpatient admissions (t-2 to t-1)</td>
<td>-.000045 (.000042)</td>
<td>-.000038 (.000045)</td>
<td>-.000038 (.000045)</td>
<td>-.000040 (.000050)</td>
<td>-.000074 (.000051)</td>
<td>-.000074 (.000051)</td>
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<tr>
<td>Inpatient admissions (t-2)</td>
<td>-.000013 (.000021)</td>
<td>-.000010 (.000022)</td>
<td>-.000010 (.000022)</td>
<td>-.000049+ (.000025)</td>
<td>-.000063* (.000027)</td>
<td>-.000063* (.000027)</td>
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<td>Rival competitive aggressiveness (t)</td>
<td>.034 (.030)</td>
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<td>-.034 (.030)</td>
<td>-.055+ (.032)</td>
<td>-.055+ (.032)</td>
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</tr>
<tr>
<td>Expected rival competitive aggressiveness (t+1 and t+2)</td>
<td>-.007 (.0058)</td>
<td>-.00737 (.0061)</td>
<td>-.0073 (.0061)</td>
<td>.0020 (.0059)</td>
<td>.0028 (.0057)</td>
<td>.0028 (.0057)</td>
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<tr>
<td>Multi-hospital system member? (Yes=1)</td>
<td>-.0039 (.27)</td>
<td>-.024 (.28)</td>
<td>-.024 (.28)</td>
<td>-.79** (.27)</td>
<td>-.72** (.26)</td>
<td>-.72** (.26)</td>
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</tbody>
</table>

Note: Table 3 continues on the next page.
Table 3 (cont.)
Zero-inflated Poisson Regression Analyses Predicting Number of Services Added (N=73)

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Probability of survey completion</td>
<td>-.14 (1.58)</td>
<td>-.042 (1.60)</td>
<td>-.042 (1.60)</td>
<td>1.84 (1.89)</td>
<td>1.36 (1.89)</td>
<td>1.36 (1.89)</td>
</tr>
<tr>
<td>Constant</td>
<td>.89 (1.57)</td>
<td>.84 (1.63)</td>
<td>.84 (1.63)</td>
<td>2.80 (1.55)</td>
<td>3.14+ (1.60)</td>
<td>3.14* (1.60)</td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-113.15</td>
<td>-113.01</td>
<td>-113.01</td>
<td>-91.47</td>
<td>-89.51</td>
<td>-89.51</td>
</tr>
<tr>
<td>Likelihood ratio (Chi-squared)</td>
<td>25.02*</td>
<td>25.30*</td>
<td>25.30*</td>
<td>33.96</td>
<td>37.88***</td>
<td>37.88***</td>
</tr>
<tr>
<td>Change in likelihood ratio (Chi-squared)</td>
<td>.28</td>
<td>.28</td>
<td>.28</td>
<td>3.92*</td>
<td>3.92*</td>
<td>3.92*</td>
</tr>
</tbody>
</table>

+ p < .10; * p < .05; ** p < .01; *** p < .001
Standard errors are in parentheses.
Statistical tests for hypotheses are one-tailed. Tests for controls are two-tailed.
### Table 4
Summary of Hypotheses and Results – Models Predicting CEO Advice Seeking

<table>
<thead>
<tr>
<th>Independent variables</th>
<th># CEO advice interactions with friends</th>
<th></th>
<th></th>
<th># CEO advice interactions with non-friends</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Expected effect</td>
<td>Actual effect</td>
<td>Statistical significance</td>
<td>Expected effect</td>
<td>Actual effect</td>
<td>Statistical significance</td>
</tr>
<tr>
<td>Poor growth performance</td>
<td>+/-</td>
<td>+</td>
<td>.001</td>
<td>+/-</td>
<td>+</td>
<td>.10</td>
</tr>
<tr>
<td>Poor growth performance X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEO position tenure</td>
<td>_</td>
<td>n.s.</td>
<td>n.s.</td>
<td>+</td>
<td>+</td>
<td>.05</td>
</tr>
<tr>
<td>CEO industry experience</td>
<td>_</td>
<td>_</td>
<td>.001</td>
<td>+</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>CEO extra-industry experience</td>
<td>_</td>
<td>_</td>
<td>.01</td>
<td>+</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Hospital size (admissions)</td>
<td>_</td>
<td>_</td>
<td>.05</td>
<td>+</td>
<td>+</td>
<td>.01</td>
</tr>
<tr>
<td># of hospital services</td>
<td>_</td>
<td>n.s.</td>
<td>n.s.</td>
<td>+</td>
<td>+</td>
<td>.05</td>
</tr>
<tr>
<td>Perceived competitor aggressiveness</td>
<td>+</td>
<td>+</td>
<td>.10</td>
<td>_</td>
<td>_</td>
<td>.05</td>
</tr>
</tbody>
</table>
Table 5  
Factors Influencing Number of Observations  
Included in Final Models Predicting CEO Advice-Seeking

<table>
<thead>
<tr>
<th>Factors influencing number of included observations</th>
<th>Number of usable observations removed from final sample</th>
<th>Number usable observations remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original sample frame</td>
<td>964</td>
<td></td>
</tr>
<tr>
<td>Non-responding CEOs</td>
<td>823</td>
<td>141</td>
</tr>
<tr>
<td>CEOs refusing advice questions</td>
<td>23</td>
<td>118</td>
</tr>
<tr>
<td>Observations for which their was incomplete archival data</td>
<td>48</td>
<td>70</td>
</tr>
<tr>
<td>CEOs indicating no advice seeking</td>
<td>15*</td>
<td>70*</td>
</tr>
<tr>
<td>CEOs indicating no advice seeking from friends</td>
<td>35*</td>
<td>70*</td>
</tr>
<tr>
<td>CEOs indicating no advice seeking from non-friends</td>
<td>25*</td>
<td>70*</td>
</tr>
</tbody>
</table>

* Observations for which CEO indicated no advice seeking, no advice seeking from friends, or no advice seeking from non-friends were included in analysis
Figure 1
Conceptual Model for Hypotheses Predicting CEO Advice Seeking

- Poor Firm Performance (H1 and H2)
- CEO Position Tenure (H3)
- CEO Industry Experience (H4)
- CEO Belief That Rivals are Aggressive (H8)
- CEO Experience in Other Industries (H5)
- Scope of Product/Service Offerings (H7)
- Organizational Size (H6)
- CEO Advice Seeking From Friends
- CEO Advice Seeking From Non-Friends
Figure 2
Conceptual Model for Hypotheses Predicting Firm Strategic Change

CEO Advice Seeking From Friends (H9a)

Firm Strategic Change

CEO Advice Seeking From Non-Friends (H9b)
FIGURE 3
Effect of Interaction between Hospital Growth Performance and CEO Industry Experience on CEO Advice Seeking from Friends (H4a)
FIGURE 4
Effect of Interaction between Hospital Growth Performance and CEO Extra-Industry Experience on CEO Advice Seeking from Friends (H5a)
FIGURE 5
Effect of Interaction between Hospital Growth Performance and Number of Hospital Admissions on CEO Advice Seeking from Friends (H6a)
FIGURE 6
Effect of Interaction between Hospital Growth Performance and Rival Aggressiveness on CEO Advice Seeking from Friends (H8a)
FIGURE 7
Effect of Interaction between Hospital Growth Performance and CEO Position Tenure on CEO Advice Seeking from Non-Friends (H3b)

- Low CEO Position Tenure
- Medium CEO Position Tenure
- High CEO Position Tenure

Interactions with Non-friends vs. Change in admissions
FIGURE 8
Effect of Interaction between Hospital Growth Performance and Number of Hospital Admissions on CEO Advice Seeking from Non-Friends (H6b)

Interactions with Non-friends

Change in admissions

- Low Admissions
- Medium Admissions
- High Admissions
FIGURE 9
Effect of Interaction between Hospital Growth Performance and Number of Services on CEO Advice Seeking from Non-Friends (H7b)
FIGURE 10
Effect of Interaction between Hospital Growth Performance and Rival Aggressiveness On CEO Advice Seeking from Non-Friends (H8b)
SURVEY OF HOSPITAL EXECUTIVES

Important Information:

1. Initial administrations of this survey indicate that it can be completed in about 15 minutes.

2. Every precaution will be taken to ensure the complete confidentiality of your responses. Individual executive’s responses will NOT be revealed in any presentation of results.

3. The survey uses the term “head of a hospital” to refer to those hospital executives who, like yourself, have overall responsibility for the day-to-day operations of a hospital's facilities. While typical titles for the head of a hospital would include “CEO”, “President”, or “Administrator”, in some multi-hospital systems a head of a hospital might have other titles like “Senior Vice-President of Operations” or “Vice-President of Operations” and may report to a system-level executive who has the title of CEO or President.
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your name: «Admin_1st» «Admin_Last»</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Note: If you recently assumed the role of the head of your hospital (in place of the individual listed above), please make the appropriate corrections.)</td>
<td></td>
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</tr>
<tr>
<td>2. The name of your hospital: «Hospital_Name»</td>
<td></td>
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<tr>
<td>3. How many years have you been the head of the above hospital? ______</td>
<td></td>
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</tr>
<tr>
<td>3a. How many total years have you been the head of any <strong>general</strong> hospital? ______</td>
<td></td>
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</tr>
<tr>
<td>4. How many years have you worked in the healthcare industry? ______</td>
<td></td>
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</tr>
<tr>
<td>4a. How many years of your healthcare industry experience have been with a <strong>for-profit</strong> organization? ______</td>
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</tr>
<tr>
<td>5. How many years did you work <strong>outside</strong> of the healthcare industry? ______</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5a. How many years of your work experience <strong>outside</strong> the healthcare industry were with a <strong>for-profit</strong> firm? ______</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6a. Do you have an undergraduate degree in hospital administration? (please circle)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>6b. Do you have a graduate degree in hospital administration? (please circle)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>7a. Do you have an undergraduate degree in business administration? (please circle)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>7b. Do you have a graduate degree in business administration? (please circle)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>8a. Do you have an undergraduate degree in nursing? (please circle)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>8b. Do you have a graduate degree in nursing? (please circle)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>9. Are you an M.D.? (please circle)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>10. Your date of birth:</td>
<td></td>
<td></td>
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</tbody>
</table>
ABOUT YOUR HOSPITAL’S FACILITIES AND SERVICES

IMPORTANT: Please detach the last page of the survey (page 9) entitled “INDEX OF HOSPITAL FACILITIES AND SERVICES” and use the index in responding to the questions below. Note that facilities and services are listed alphabetically. There is no need to return the index when you return the survey.

- For the purposes of this survey, a facility or service is offered by your hospital when your hospital either provides the facility or service directly or makes it available through a formal arrangement with a system or network partner or some other provider.

<table>
<thead>
<tr>
<th>At the end of 2001, what facilities or services, that appear in the index on page 9 of the survey, did you think your hospital needed to add to the ones it offered at that time? Please list the numbers (from the index) of those facilities or services in this column. If, at the end of 2001, there were no facilities or services (that appear in the index) that you thought needed to be added please write “none”.</th>
<th>Up to this point in 2002, what facilities or services, that appear in the index, has your hospital added to the ones that it offered at the end of 2001? Please list the numbers (from the index) of those facilities or services in this column. If there have been no facilities or services (that appear in the index) that have been added so far this year please write “none”.</th>
<th>During the remainder of 2002, what additional facilities or services, that appear in the index, will your hospital add to the ones that it currently offers? Please list the numbers (from the index) of those facilities or services in this column. If no other facilities or services (that appear in the index) will be added during the remainder of this year please write “none”.</th>
<th>During 2003, what facilities or services, that appear in the index, will your hospital add to the ones that it will offer as of the end of 2002? Please list the numbers (from the index) of those facilities or services in this column. If there are no definite plans to add any facilities or services (that appear in the index) in 2003 please write “none”.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>10</td>
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</tr>
</tbody>
</table>
## ABOUT YOUR HOSPITAL’S OPERATIONS

**Instructions:**

For each of the statements below, **place an X beneath the rating** that best indicates the extent to which you disagree or agree with that statement.

<table>
<thead>
<tr>
<th></th>
<th>Very strongly disagree</th>
<th>Strongly disagree</th>
<th>Moderately disagree</th>
<th>Slightly disagree</th>
<th>Slightly agree</th>
<th>Moderately agree</th>
<th>Strongly agree</th>
<th>Very strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My hospital must significantly <strong>improve the productivity of its existing resources</strong> over the next 18 months to ensure its ongoing ability to compete effectively in its local market.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. My hospital must significantly <strong>improve the efficiency of its operations</strong> over the next 18 months to ensure its ongoing ability to compete effectively in its local market.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. My hospital must significantly <strong>reduce the costs associated with delivering its important outputs</strong> over the next 18 months to ensure its ongoing ability to compete effectively in its local market.</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>
# ABOUT YOUR HOSPITAL’S SIGNIFICANT COMPETITORS

## Instructions:

In **Column 1**, please list the names of each general hospital that you think of as being one of your hospital’s significant competitors. In **Columns 2 through 7**, please use the following scale to indicate the extent to which you **disagree** or **agree** with each statement as it applies to each of the competitors that you list in Column 1.

<table>
<thead>
<tr>
<th>Very strongly <strong>disagree</strong></th>
<th>Strongly <strong>disagree</strong></th>
<th>Moderately <strong>disagree</strong></th>
<th>Slightly <strong>disagree</strong></th>
<th>Moderately <strong>agree</strong></th>
<th>Strongly <strong>agree</strong></th>
<th>Very strongly <strong>agree</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

- Place a 1 in the appropriate box if you “very strongly disagree” with the statement as it applies to a particular competitor; a 2 if you “strongly disagree”, a 3 if you “moderately disagree”, and so on.

<table>
<thead>
<tr>
<th>In this column, please list each general hospital you think of as being one of your hospital’s significant competitors.</th>
<th>... the named competitor and my hospital will compete for the same patients and physicians.</th>
<th>... the named competitor and my hospital will compete for the same share of my hospital’s local market.</th>
<th>... a market share gain for the named competitor will result in a market share loss for my hospital.</th>
<th>... the named competitor will aggressively pursue initiatives designed to capture market share currently held by my hospital.</th>
<th>... the named competitor will aggressively pursue initiatives designed to attract patients and physicians currently being served by my hospital.</th>
<th>... the named competitor will aggressively compete with my hospital for market share.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
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</tr>
</tbody>
</table>

**Note:** Please list your hospital’s 10 most significant competitors if your hospital has more than 10 significant competitors.
ABOUT YOUR EFFORTS TO INFORMALLY OBTAIN INFORMATION OR ADVICE ABOUT STRATEGIC ISSUES IN 2001

- For the purposes of this survey, information or advice sought out *informally* is information or advice sought out *outside the context of a regularly scheduled meeting*.

- For the purposes of this survey, *strategic issues* are *the significant challenges and opportunities* facing your hospital.

1. About how many times during the year 2001 did you *informally* seek out members of your hospital’s “top-management team” to obtain information or advice about the *strategic issues* facing your hospital? ______

2. About how many times during the year 2001 did you *informally* seek out members of your hospital’s local board to obtain information or advice about the *strategic issues* facing your hospital? ______

3. If your hospital is part of a multi-hospital system, about how many times during the year 2001 did you *informally* seek out higher-level system executives (e.g., your immediate superior) to obtain information or advice about the *strategic issues* facing your hospital? (please write N/A if you head an independent hospital) ______
**ABOUT HEADS OF OTHER GENERAL HOSPITALS YOU INFORMALLY SOUGHT OUT IN 2001 AND/OR 2000 FOR INFORMATION OR ADVICE ABOUT STRATEGIC ISSUES**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In this column, please list the names of heads of other general hospitals that you informally sought out at least once during the period from the beginning of the year 2000 through the end of the year 2001 for information or advice about the strategic issues facing your hospital.</td>
<td>In this column, please provide the names of the hospitals headed by each executive you listed.</td>
<td>In the year 2001, about how many times did you informally obtain information or advice about strategic issues from each named executive?</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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<td>14</td>
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<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** If you sought out more than 15 heads of hospitals, please list the 15 executives who you sought out most frequently.
ABOUT HEADS OF OTHER GENERAL HOSPITALS
WHO ARE PERSONAL FRIENDS

For the purposes of this survey, personal friends are those heads of other hospitals that you have a personal relationship with that extends beyond your shared professional activities.

<table>
<thead>
<tr>
<th>In this column, please list the names of heads of other general hospitals you would consider to be personal friends.</th>
<th>In this column, please provide the names of the hospitals headed by each executive you listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the named executive one of your closest friends? (please circle)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Yes</td>
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<td>Yes</td>
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<td>Yes</td>
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<tr>
<td>9</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: If you have friendships with more than 10 heads of hospitals, please list the 10 executives with whom you have the closest relationships.
**MORE ABOUT YOUR HOSPITAL’S SIGNIFICANT COMPETITORS**

**Instructions:**

For each of the statements below, place an X beneath the rating that best indicates the extent to which you disagree or agree with that statement.

<table>
<thead>
<tr>
<th></th>
<th>Very strongly disagree</th>
<th>Slightly disagree</th>
<th>Slightly agree</th>
<th>Moderately agree</th>
<th>Strongly agree</th>
<th>Very strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. In the year <strong>2001</strong>, my hospital's significant competitors, taken as a whole, aggressively pursued initiatives designed to capture market share that was held by my hospital.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1b. In the year <strong>2000</strong>, my hospital's significant competitors, taken as a whole, aggressively pursued initiatives designed to capture market share that was held by my hospital.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2a. In the year <strong>2001</strong>, my hospital's significant competitors, taken as a whole, aggressively pursued initiatives designed to attract patients and physicians that were being served by my hospital.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**More about your Hospital’s Significant Competitors**  
(continued)

| 2b. In the year 2000, my hospital’s significant competitors, taken as a whole, aggressively pursued initiatives designed to attract patients and physicians that were being served by my hospital. |
|---|---|---|---|---|---|---|---|
| Very strongly disagree | Strongly disagree | Moderately disagree | Slightly disagree | Slightly agree | Moderately agree | Strongly agree | Very strongly agree |

| 3a. In the year 2001, my hospital’s significant competitors, taken as a whole, aggressively competed with my hospital for market share. |
|---|---|---|---|---|---|---|---|
| Very strongly disagree | Strongly disagree | Moderately disagree | Slightly disagree | Slightly agree | Moderately agree | Strongly agree | Very strongly agree |

| 3b. In the year 2000, my hospital’s significant competitors, taken as a whole, aggressively competed with my hospital for market share. |
|---|---|---|---|---|---|---|---|
| Very strongly disagree | Strongly disagree | Moderately disagree | Slightly disagree | Slightly agree | Moderately agree | Strongly agree | Very strongly agree |
THIS CONCLUDES THE SURVEY.

THANK YOU VERY MUCH FOR YOUR PARTICIPATION IN THIS STUDY.

PLEASE RETURN THE COMPLETED SURVEY IN THE PRE-ADDRESSED, POSTAGE-PAID ENVELOPE INCLUDED IN YOUR PACKET.
INDEX OF HOSPITAL FACILITIES AND SERVICES

This index is for use in responding to the items on page 2.

| 1. Ambulance services | 28. Enrollment assistance services | 58. Physical rehabilitation outpatient services |
| 2. Adult day care program | 29. Extracorporeal shock wave lithotripter (ESWL) | 59. Positron emission tomography scanner (PET) |
| 3. Alcoholism-drug abuse or dependency inpatient unit | 30. Fitness center | 60. Primary care department |
| 4. Alcoholism-drug abuse or dependency outpatient services | 31. Freestanding outpatient care center | 61. Psychiatric care |
| 5. Angioplasty | 32. Geriatric services | 62. Psychiatric child adolescent services |
| 6. Arthritis treatment center | 33. Health facility transportation (to/from) | 63. Psychiatric consultation-liaison services |
| 7. Assisted living | 34. Health fair | 64. Psychiatric education services |
| 8. Auxiliary organization | 35. Health information center | 65. Psychiatric emergency services |
| 11. Burn care services | 38. HIV/AIDS services | 68. Psychiatric partial hospitalization program |
| 12. Cardiac catheterization laboratory | 39. Home health services | 69. Radiation therapy |
| 13. Cardiac intensive care services | 40. Hospice | 70. Reproductive health services |
| 14. Case management | 41. Hospital-based outpatient care center-services | 71. Retirement housing |
| 15. Children wellness program | 42. Magnetic resonance imaging (MRI) | 72. Single photon emission computed tomography (SPECT) |
| 16. Chiropractic services | 43. Meals on wheels | 73. Skilled nursing or other long-term care services |
| 17. Community health reporting | 44. Medical surgical intensive care services | 74. Sleep center |
| 18. Community health status assessment | 45. Neonatal intensive care services | 75. Social work services |
| 19. Community health status based service planning | 46. Nutrition programs | 76. Sports medicine |
| 20. Community outreach | 47. Obstetrics services | 77. Support groups |
| 21. Complementary medicine | 48. Occupational health services | 78. Teen outreach services |
| 22. Crisis prevention | 49. Oncology services | 79. Tobacco treatment/cessation program |
| 23. CT scanner | 50. Open heart surgery | 80. Transplant services |
| 24. Dental services | 51. Outpatient surgery | 81. Trauma center (certified) |
| 25. Diagnostic radioisotope facility | 52. Pain management services | 82. Ultrasound |
| 26. Emergency department | 53. Palliative care program | 83. Urgent care center |
| 27. Enabling services | 54. Patient education center | 84. Volunteer services department |
| 55. Patient representative services | 56. Pediatric intensive care services | 85. Women's health center/services |
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VITA

Michael Louis McDonald was born in Orlando, Florida on May 14, 1960, the son of John Louis McDonald and Ann Kathleen McDonald. After completing his work at Winter Park High School in Winter Park, Florida, in 1978, he entered Emory University in Atlanta, Georgia, where he received a Bachelor of Arts degree in Economics in August, 1982. He subsequently held positions at number of companies including AT&T, where he was employed in various capacities for approximately 9 years. He attended the Master’s in Public Administration degree program at Florida State University from the Fall of 1995 through the Summer of 1997. In the Fall of 1997 he entered the Ph.D. program in the Management Department at the University of Texas at Austin.

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