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INSTITUTIONALIZATION, FRAMING, AND DIFFUSION: THE LOGIC OF TQM ADOPTION AND IMPLEMENTATION DECISIONS AMONG U.S. HOSPITALS

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We extend institutional theory's account of diffusion by examining the interplay between economic and social considerations in adoption decisions. Drawing on organizational decision-making research, we argue that both early and late adopters respond to framing and interpreting adoption decision situations as opportunities versus threats. Using data on the diffusion of total quality management (TQM) among U.S. hospitals, we found that motivations to appear legitimate coexist with motivations to realize economic performance improvement, and that issue perception is related to the extent of practice implementation. These findings prompt rethinking of the classic institutional diffusion model.

The questions of why and how firms adopt new practices has remained a central topic in the management and organization theory literatures (e.g., Abrahamson, 1991; Davis & Greve, 1997; Palmer, Jennings, & Zhou, 1993; Westphal, Gulati, & Shortell, 1997; see Jonsson [2002] or Strang and Soule [1998] for overviews). Prior research has offered a number of important insights into diffusion processes among populations of organizations, ranging from the role of organization size and market power (Geroski, 2000; Hannan & McDowell, 1984) to the importance of imitation processes (DiMaggio & Powell, 1983) and trendsetters (Abrahamson, 1996). Two distinct approaches to explaining adoption motivation have characterized much of this literature on the diffusion of practices and administrative technologies (cf. Strang & Macy, 2001). The first approach is rooted in the economic literature, building on the rational actor model, in which organizational adoption is motivated by a desire for technical or efficiency gains and related boosts to economic performance (e.g., Katz & Shapiro, 1987; Teece, 1980). The second approach represents a more sociological perspective, emphasizing the social embeddedness of organizations and motivations that stem primarily from a desire to appear legitimate to powerful constituents, peer organizations, or outside stakeholders (Abrahamson, 1991; DiMaggio & Powell, 1983).

Perhaps the most important integration of insights from both sets of explanations is Tolbert and Zucker's (1983) two-stage model, according to which early adopters seek technical gains from adoption, but later adopters are primarily interested in the social benefits of appearing legitimate. In their classic study of civil service reforms, Tolbert and Zucker found that early adopters of reforms were motivated by a desire to overcome administrative problems. However, as adoption of these reforms spread from city to city, the reforms came to be understood as necessities, and cities that had not yet adopted reforms faced disapproval or even sanctions for their lack of conformity. Tolbert and Zucker consequently argued that these later adopters implemented reforms primarily out of a desire to appear legitimate. Similarly, in their study of U.S. hospitals, Westphal, Gulati, and Shortell (1997) suggested that early adopters of TQM practices were motivated by efficiency concerns. However, as TQM practices became institutionalized and thus became expected elements of organization, the logic of evaluation shifted, and later adopters were motivated primarily by legitimacy concerns rather than efficiency gains.

Although this two-stage model of diffusion has been a touchstone for many studies that apply institutional theory to practice diffusion (e.g., Baron, Dobbin, & Jennings, 1986; Meyer, Stephenson, & Webster, 1985; Pangarkar & Klein, 1998; Scott, 1995; Westphal & Zajac, 1994), it has recently drawn critical attention. For example, Lounsbury (2007) argued that segregating economic and social logics is problematic, since the distinction between technical and social benefits is itself embedded in institutions (Lounsbury, 2002; Thornton, 2004). By implication, technical and social motivations are less disjointed than previously theorized (e.g., Schneiberg & Soule, 2005; Scott, Ruef, Mendel, & Caronna, 2000).

Specifically, the two-stage model suggests that

later adopters seek social gains rather than economic or technical ones, but it is not clear that social and economic motivations for adoption are indeed mutually exclusive. In fact, motivations for appearing legitimate and achieving higher technical performance may coexist; if a diffusing practice is seen as bestowing higher performance, why would later adopters be any less interested in these technical gains? In addition, early adoption frequently leads to greater prestige and more positive customer attitudes (e.g., Kamins & Alpert, 2004; Rogers, 1983), which begs a further question: Are early adopters really disinterested in the social gains that come with being perceived as market leaders?

Furthermore, several researchers have pointed out that empirical tests of the model have largely relied on inference about motivations rather than more direct assessments (e.g., Donaldson, 1995; Scott, 1995). Instead of exploring the motivations of adopters, most prior studies have inferred motivations either from characteristics of adopters such as age, size, or status (Tolbert & Zucker, 1983) or from later implementation patterns of innovations (Westphal et al., 1997). A more direct examination of adoption motivations could greatly enhance understanding of the mechanisms behind the diffusion process, but such an examination has so far not been undertaken.

Finally, a number of recent studies have pointed to important issues raised by situations in which diffusing practices are only partially implemented (e.g., Edelman, 1992; Fiss & Zajac, 2004, 2006; Westphal & Zajac, 2001). As mentioned, however, having only indirect studies of adoption motivation makes it hard to explain why efforts vary, raising a further question: Is practice implementation related to adoption motivation? Answering this question requires knowing more about how logics of adoption interact with subsequent implementation activities.

The current study responds to these challenges with both theoretical and empirical contributions to the institutional theory of practice diffusion. We argue that the conventional two-stage model oversimplifies the relationship between adoption motivation and timing. Specifically, this research shows that both early *and* later adopters are affected by logics of efficiency and legitimacy, because they complement rather than conflict with each other. Our aim is thus to reconcile arguments drawing on economic and social explanations of diffusion by developing a richer account of adoption decisions and motivations, and institutionalization's effects on them.

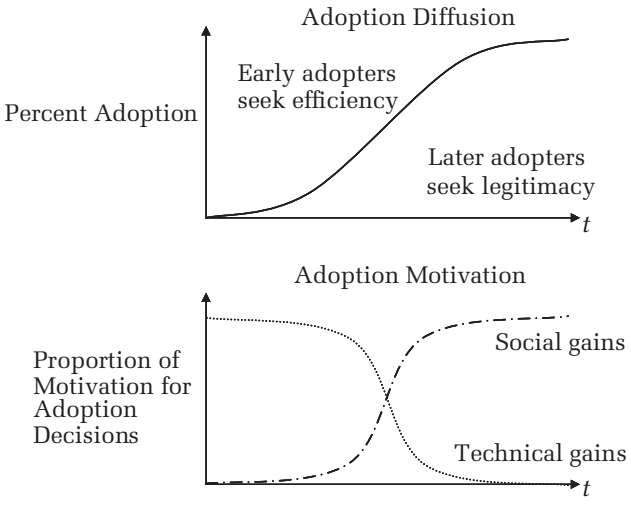
To develop this argument, we draw on prior research that relates the framing of situations as opportunities or threats to tendencies to interpret them as representing potential gains or losses, respectively (e.g., Dutton & Jackson, 1987; George, Chattopadhyay, Sitkin, & Barden, 2006; Staw, Sandelands, & Dutton, 1981). Specifically, we argue that early adoption is associated with opportunity framing and motivations to achieve gains, both economic and social, while later adoption is associated with threat framing and motivations to avoid losses, again in both economic and social terms. Furthermore, we argue that implementation efforts are related to framing situations as threats or opportunities and motivations to achieve gains or avoid losses.

Empirically, we tested our arguments using data from a highly cited diffusion study of adoption and implementation of TQM practices among North American hospitals in the early 1990s (Westphal et al., 1997). Our findings indicate that the conventional two-stage model of innovation adoption—early adopters seeking efficiency and later adopters seeking legitimacy—does indeed miss the compatibility of social and economic motivations for adoption. Instead, we find that economic and social factors combine to drive diffusion as it changes the adoption of innovation from potential opportunity for early adopters to a more certain threat for later ones, and that these adoption motivations are related to subsequent implementation patterns. In addition, our findings indicate that the substantive importance of social considerations may differ less among early and later adopters than previously assumed, thus carrying important implications for future research on the institutional drivers of practice diffusion.

RETHINKING ADOPTION MOTIVATIONS

Although the two-stage model of adoption motivations is widely used in studies of diffusion among organizations (e.g., Baron et al., 1986; Meyer et al., 1985; Scott, 1995; Tolbert & Zucker, 1983; Westphal et al., 1997), it has so far been tested only in an indirect manner. For example, Tolbert and Zucker (1983) found that economic and organizational factors such as size, age, and city population had predictive power only for early adopters, proposing that this loss of predictive power for later adopters implied that a concern for legitimacy, rather than efficiency, concerns drove later adoptions. In a similar manner, Westphal et al. (1997) interpreted their finding that later adopters engaged in less customization of TQM practices and showed fewer performance benefits as evidence that a logic of appropriateness rather than one of instrumentality motivated later adopters. Figure 1

FIGURE 1
Adoption Motivations over Time: Classic Two-Stage Model



illustrates this classic two-stage model, showing the substitution of legitimacy for efficiency motivations during the process of an innovation's diffusion.

These studies have highlighted the importance of social motivations for practice adoption, yet they have left room for alternative interpretations, because they have merely inferred adopters' motivations from variables' loss of predictive power or from subsequent modification of practice and performance differences. Factors such as learning efficiencies related to positions in social networks (Abrahamson & Rosenkopf, 1997) or fashion-like trends in management thinking (Abrahamson, 1991) could also explain such findings. Also, since the performance benefits of new practice adoption are generally delayed, the superior performance of early adopters could be the result of their having more experience than recent adopters, who have had less time to see benefits take effect. One way to tease out these alternatives is to more directly examine adoption motivations at different stages of a diffusion process rather than infer motivations from period or performance effects.

Furthermore, a number of studies have failed to yield support for the classic two-stage model. For instance, in a study of the diffusion of human resource practices among law firms, Sherer and Lee (2002) failed to find support for the notion that competitive-technical pressures explained early, but not later, adoption. Similarly, Kraatz and Zajac (1996) found no link between technical variables and early versus late adoption of professional degree programs in American liberal arts colleges. Similarly, prior research found mixed support for the two-stage model in studies of the diffusion of both matrix management (Burns & Wholey, 1993) and work-family programs (Goodstein, 1994; Ingram & Simons, 1995). In our view, this lack of support and the fact that supporting studies used indirect testing of adoption motivation suggest revisiting the two-stage model and its dichotomization of motivations for early versus later adopters.

Theoretical considerations also prompt questions about adoption motivations. As Donaldson (1995) observed, if the civil service reforms introduced by many large American cities helped to curb corruption and promote internal efficiency, then these reforms presumably also benefited later adopters. Such benefits would themselves be a reason for latecomers to adopt civil service reforms, particularly if adoption combines the drawing power of improved performance with that of greater legitimacy. Logically, the desire to appear legitimate should only conflict with a desire to improve performance when performance improvements themselves are illegitimate. Except in those rare cases, wanting to "look good" does not preclude wanting to also do well. Technical and social benefits may thus work according to a parallel logic rather than substituting for each other, and they may even reinforce each other, especially as higher performance may increase an adopter's legitimacy, and vice versa. Furthermore, early adopters may likewise be motivated by both efficiency and legitimacy concerns. For example, early adopters of new technologies or practices may reap social benefits from being perceived as market leaders (e.g., Kamins & Alpert, 2004; Rindova, Pollock, & Hayward, 2006). Thus, theorizing the logics of efficiency and legitimacy as both clearly disjointed and clearly prevailing at different stages of the diffusion process could mischaracterize the motivations of both early and later adopters (cf. Strang & Macy, 2001), suggesting the need to rethink the relationship between both motivations.

A further unresolved issue in the institutional diffusion model relates to the extent of practice implementation. Whether seeking efficiency or legitimacy in adoption, organizations face the task of integrating new practices into existing operations, technologies, and political agendas. The conventional diffusion model mostly neglects practice implementation, yet several studies have called for viewing diffusing practices as dynamic (Rogers, 1978; Strang & Soule, 1998) and thus for studying the details of implementation (e.g., Edelman, 1992; Fiss & Zajac, 2006; Westphal & Zajac, 2001). Regarding the relationship between adoption motivations and implementation, efficiency and legitimacy logics should influence both adoption and

implementation (Zbaracki, 1998). However, very little research has examined how these logics actually influence implementation processes. Although Westphal et al. (1997) suggested that efficiency concerns lead adopters to implement customized practices, while legitimacy concerns lead later adopters to conformist ones, this article shifts the focus from isomorphism to explore how adoption motivation relates to the extent and content of implementation efforts.

OPPORTUNITIES, THREATS, AND ADOPTION MOTIVATIONS

Although differences in motivations and logics between early and late adopters lie at the center of the two-stage model of diffusion, institutional theory remains relatively disconnected from related theory about motivation and cognition. Some authors have extended institutional theory's cognitive dimension by showing how logics shape attention, cognition, and action (e.g., Lounsbury, 2007; Ocasio, 1995, 1997; Thornton & Ocasio, 1999); still the theory lacks connection to work in social psychology that could strengthen its "cognitive underpinning" (George et al., 2006). Such cross-level theorizing would sharpen institutional theory's accounts of cognition and conformity—core topics in social psychology (Milgram, 1974).

In particular, we turn to micro-organizational behavior and psychology-based research that links organizational change to the framing and interpretation of issues as either opportunities for gains or threats of losses (e.g., Dutton & Jackson, 1987; George et al., 2006). In this literature, interpreting potential organizational changes as opportunities versus threats affects organizational action (e.g., Chattopadhyay, Glick, & Huber, 2001; Thomas, Clark, & Gioia, 1993; Thomas & McDaniel, 1990). Thus, labeling or framing an issue as a threat or an opportunity affects change by influencing decision makers' subsequent cognition and motivation (Dutton, Fahey, & Narayanan, 1983). Specifically, "the 'opportunity' category implies a *positive* situation in which *gain* is likely and over which one has a fair amount of *control*; in contrast, the 'threat' category implies a *negative* situation in which *loss* is likely and over which one has relatively *little control*" (Dutton & Jackson, 1987: 80; emphasis in the original).

There are several benefits to linking motivations for innovation adoption to the decision-making logic suggested by viewing and framing situations as opportunities versus threats. First, it highlights micro-macro interactions that shape how organizations "think" (Douglas, 1986) by affecting the thinking of key decision makers (Scott, 1995). Second, making clearer connections between diffusion and theories of issue interpretation and motivation yields a more robust understanding of social and organizational dynamics (Hackman, 2003). Thus, the current study complements arguments for viewing rationality as culturally rooted (e.g., Dobbin, 1994; Lounsbury, 2007) by linking it to managers' tendencies to frame adoption decisions as gains or losses and competitive and institutional effects in diffusion processes. Furthermore, our study responds to various calls to examine the micro foundations of institutional theory (e.g., DiMaggio, 1997; DiMaggio & Powell, 1991; Scott, 1995), especially its more cognitive account of institutional persistence and change (George et al., 2006).

As Thomas et al. (1993) argued, interpreting issues as opportunities enhances the potential for taking action, thus making organizational change more likely. Conversely, the threat rigidity thesis (Staw et al., 1981) suggests interpreting issues as threats leads to an opposite response: organizations facing a perceived risk of a loss of control often respond by falling back on familiar routines, thereby resisting organizational change.[1] As practices diffuse, we suggest the process of institutionalization will affect whether organizations frame and interpret them as threats or opportunities. At the beginning of a diffusion process, rhetorical arguments play an important role in framing practices and establishing their legitimacy (Gamson & Meyer, 1996; Suddaby & Greenwood, 2005), but the prevalence and complexity of such arguments decline over time as innovations are institutionalized (Green, 2004; Green, Li, & Nohria, 2009). As broader debates are echoed at each potential adopter, opportunity framing promotes adoption and organizational change (Thomas, Clark, & Gioia, 1993), but threat framing reinforces commitment to familiar routines, not change (Staw et al., 1981). Framing adoption decisions as either opportunities or threats thus affects whether, when, and to what extent organizations adopt diffusing innovations in technology or administrative practice (Dutton & Jackson, 1987; Sine & Lee, 2009).

When organizational decision makers see situa-

[1] This prediction appears to contradict prospect theory's (Kahneman & Tversky, 1979) suggestion that individuals take greater risks when presented with a wager framed as recovering from a loss than with a mathematically identical wager framed as pursuing an equivalent gain. Drawing on theory, however, we focus here on the threat-rigidity mechanism because of its links to work emphasizing the importance of framing and viewing situations as threats or opportunities.

tions as opportunities, they are more likely to feel and respond to motivations for achieving gains relative to their current position, but in situations viewed as threats, they are more likely to feel and respond to motivations to avoid losses. For example, early practice adoption is likely when motivations for gain meet with seeing a new practice as an opportunity to beat the competition, but later adoption is likely when motivations to avoid losses combine with viewing a new practice as a threat.

As practices diffuse, institutionalization changes how they are perceived. Early on, practices that promise performance improvement offer organizations opportunities for advantage, but adoption also entails the risks—or threats—associated with organizational change. With diffusion, however, nonadoption presents a competing risk, for two reasons. First, when early adopters realize performance improvements, their successes intensify competitive pressures on nonadopters to follow. Second, diffusion creates social pressures to avoid looking illegitimate. At the same time, learning among organizations can reduce the change-related risks of adoption (Singh, House, & Tucker, 1986).

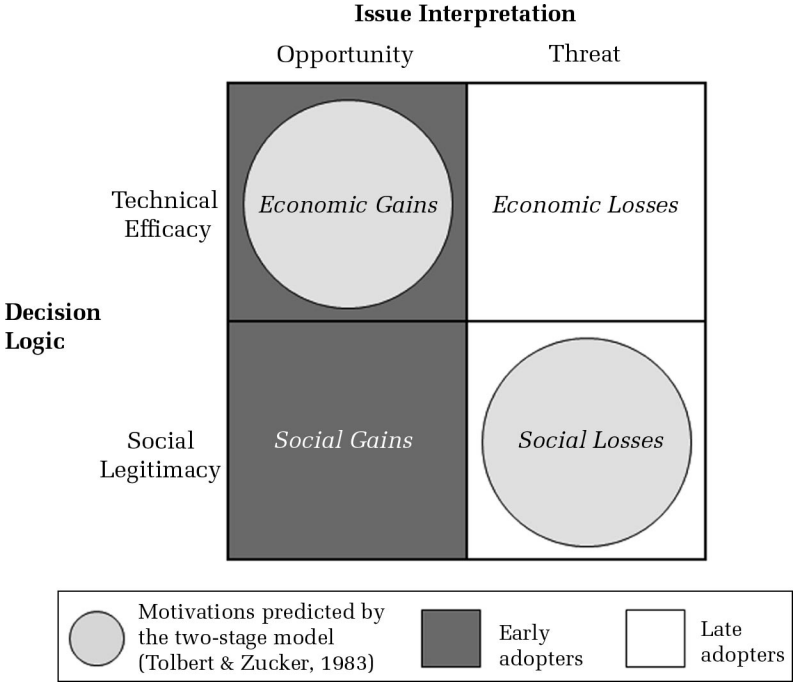
Finally, using the opportunity and threat concepts is intuitively appealing when considering organizational decisions about whether and when to adopt complex administrative innovations such as TQM. As the careers of senior executives are increasingly tied to the performance of their organizations, the fates of both depend on such decisions. Since the psychological mechanisms relating to threats and opportunities have been shown to operate at various levels, including that of the organization (e.g., Chattopadhyay et al., 2001; Staw et al., 1981), they are attractive for the purposes of understanding organizational adoption decisions.

Thus, we argue that organizational decision makers consider both the efficiency and legitimacy dimensions of new practices, and that they can approach adoption decisions with a focus on either preventing losses or promoting gains in either dimension. To illustrate this argument, we mapped decision dimensions (economic versus social) to issue interpretation (opportunities versus threats) to produce a two-by-two matrix useful for understanding adoption motivations. Figure 2 combines these elements to present potential adoption motivations in a simple diagram. Early adopters' motivations appear in the left column; this side of the matrix corresponds to an opportunity view associated with achieving gains. Later adopters' motivations appear in the right column; this side corresponds to a threat view associated with preventing losses.

Motivations Associated with an Opportunity Framing

The conventional diffusion model suggests that early adopters are motivated by efficiency gains

FIGURE 2
Motivations for Adopting Innovation



(Palmer & Biggart, 2002; Tolbert & Zucker, 1983). This logic for adoption is captured in the top-left cell of the motivation-issue interpretation matrix in Figure 2: adopting organizations are motivated by achieving economic gains. At this point of a diffusion process, adopting the new practice presents an opportunity rather than a threat, because it allows an organization to achieve a performance advantage relative to competitors, since only few organizations have as yet adopted the practice. Connecting this part of the conventional diffusion model with theories of issue interpretation suggests the following hypothesis:

Hypothesis 1a. Early adopters are motivated by the perceived opportunity of achieving economic gains.

In addition, however, early adopters may also be motivated by the prospect of achieving social gains. An organization may adopt an innovation to distinguish itself from other organizations (e.g., Abrahamson, 1991), and to maintain high status vis-à-vis competitors (e.g., Rindova et al., 2006). For example, early adopters of innovations may reap social benefits from being perceived as market leaders. Thus, an organization that is an early adopter may earn the esteem of peers, even to the point of becoming a bellwether for change (Rogers, 1983). Furthermore, being described as a market leader also tends to enhance customers' attitudes toward a firm (Kamins & Alpert, 2004). Organizations that see an issue as an opportunity may thus try to gain legitimacy for new or existing practices in the eyes of key stakeholders and to leverage that legitimacy to gain greater control over their environment (George et al., 2006: 355). In contrast to the conventional two-stage diffusion model, this suggests the following hypothesis for early adopters:

Hypothesis 1b. Early adopters are motivated by the perceived opportunity of achieving social gains.

Of course, early adopters will not benefit from being perceived as leaders in new practices until others have enough familiarity with the new practice to see it as valuable. Thus, emerging categories for classifying innovation need to stabilize before demand for innovations can really grow (Rosa, Porac, Runser-Spanjol, & Saxon, 1999), but for innovations that emerge at the intersection of established category systems (which is the common case), there are typically reference points against which they can be judged (Hargadon & Douglas, 2001), even early on. Organizations may therefore invoke these reference points to frame adoption and give meaning to a practice (Fiss & Zajac, 2006), thus providing frameworks for other organizations to understand the innovation (Hirsch, 1986; Leblebici, Salancik, Copay, & King, 1991; Strang & Meyer, 1993). Especially when diffusing technologies are not too disconnected from existing technologies or institutional regimes, early adoption can have social significance for both adopters and observers.

The case of TQM is a useful illustration of this process. This management concept had emerged among American companies in the early 1980s and stressed customer focus, continuous improvement, structured problem-solving processes, and employee empowerment (Deming, 1993; Hackman & Wageman, 1995; Juran, 1989). By the time TQM practices began to diffuse among U.S. hospitals in the late 1980s, the idea of TQM as a quality enhancement tool was already well established. As TQM was gaining acceptance in other business sectors, applying such quality management tools to the health care sector became attractive to early adopters interested in distinguishing themselves from their competition. Although early adopters were thus likely motivated by seeing TQM as an opportunity for achieving social gains, the increasing diffusion of TQM would set in motion a bandwagon process similar to that for efficiency motivations. As TQM diffused more widely, the gains from being perceived as a market leader diminished, and the threat of being perceived as a laggard increased. Later adopters would thus no longer be motivated by a view of TQM adoption as an opportunity, but would instead interpret the lack of TQM adoption as a threat and adoption as a way to avoid legitimacy losses.

Motivations Associated with a Threat Framing

When both early adopters and others who learn about their experiences see innovations as beneficial to performance, diffusion accelerates, leading to the well-known S-shape of the diffusion curve. Though early adopters are guided by the view of adoption as an opportunity to realize gains vis-à-vis their competitors, wider diffusion triggers a second process. As other organizations experience increased competitive pressure from early adopters, they will likewise be motivated to adopt the diffusing practice, thus setting into motion a competitive bandwagon (Abrahamson & Rosenkopf, 1993; Katz & Shapiro, 1987). This part of the process is represented by the top-right cell of Figure 2. As diffusion proceeds and more organizations adopt a new practice, the competitive advantage associated with adoption diminishes, eventually restoring competitive parity by moving all adopters up to a higher performance plateau.

However, those organizations that have not adopted the new practice then face a competitive

disadvantage as they find themselves below the new performance plateau and thus in a poorer situation than under the prior status quo. In contrast to the dominant institutional diffusion model, these arguments suggest that, like early adopters, later adopters are also motivated by efficiency considerations, although the interpretation of the new practice would change from opportunity to threat in response to the dynamic nature of the diffusion process. In other words, the process creates pressures for later adopters that shift how they are likely to frame the situation—it both reduces the likelihood of gains and increases the risk of losses. As practices diffuse, therefore, later adopters are more likely to frame them as threats.[2] Thus, we propose:

Hypothesis 2a. Later adopters are motivated by the perceived threat of incurring economic losses.

Finally, according to the conventional diffusion model, widespread adoption of a practice contributes to its perceived legitimacy, thus creating normative pressures to adopt and thereby avoid the sanctions that come with being seen as illegitimate (Abrahamson, 1991; Tolbert & Zucker, 1983). These arguments, which lie at the center of the conventional diffusion account, are presented in the bottom-right cell of Figure 2. They are based on the premise that a diffusing practice tends to acquire legitimacy and thereby eventually becomes perceived as the appropriate way of organizing, with later adopters implementing the practice in order to conform to emergent norms (e.g., Carroll & Hannan, 1989; Meyer & Rowan, 1977; Zucker, 1977). Failing to conform raises the prospect of social sanctions for being out of step with what has become legitimate and standard. As George et al. (2006) argued, organizations threatened with legitimacy losses are likely to copy successful actors to achieve legitimacy in the eyes of key stakeholders and rigidly engage in isomorphic actions that are the most easily available solutions to the problem posed by that threat. Restating this conventional institutional argument in terms of issue framing leads us to the following hypothesis:

Hypothesis 2b. Later adopters are motivated by the perceived threat of incurring social losses.

ADOPTION MOTIVATIONS AND IMPLEMENTATION

In response to several calls for more attention to practice implementation (Ansari, Fiss, & Zajac, 2010; Cool, Dierickx, & Szulanski, 1997; Glick & Hays, 1991; Whitten & Collins, 1997; Zbaracki, 1998), a growing number of studies have argued for studying this issue by examining cases of partial or incomplete practice implementation, a phenomenon seen in the diffusion of practices such as civil rights legislation in the workplace (Edelman, 1992), long term incentive and stock repurchase plans (Westphal & Zajac, 1994, 1998, 2001), the staffing of recycling programs (Lounsbury, 2001), and accounting standards and financial control systems (Fiss & Zajac, 2006). This research has established a number of factors that influence the likelihood of incomplete implementation, but adoption motivation has yet to be linked to extent of implementation. Specifically, it would appear that adopters' reasons for taking up new practices should reach beyond the moment of adoption to affect how far they go in actual implementation.

Again, applying theories of issue interpretation offers new insights into the relationship between motivation and implementation. For instance, prior research suggests that interpreting an issue as an opportunity facilitates organizational change by enhancing the potential for action (e.g., Thomas et al., 1993). In a complementary fashion, the threat-rigidity hypothesis suggests that organizations perceiving a situation as a threat will respond by falling back on familiar routines and becoming rigid, which leads to restrictions in information and conservation of resources (e.g., Staw et al., 1981). In situations where decision makers perceive their organizations as threatened, these arguments suggest that they are likely to reinforce the rigidity of familiar routines (Gilbert, 2005) by actions such as cutting costs and tightening budgets (Chattopadhyay et al., 2001; Thomas et al., 1993).

In parallel with previous arguments regarding adoption motivations, we thus argue that a perception of opportunity or threat likewise affects implementation. Specifically, when motivated by achieving gains believed to be associated with practice adoption, the perceived opportunity to realize expected performance gains should lead organizations to work harder to implement than organiza-

[2] These arguments do not depend on the assumption that diffusing practices are, in all cases, producing measurable performance gains. Rather, our arguments allow for the possibility that diffusing practices may be performance-neutral, or even have negative performance implications (Abrahamson, 1991; Strang & Macy, 2001). What matters here is that adopting organizations perceive diffusing practices as relevant to competition, either technically or socially, regardless of whether the practices are found to lead to higher performance through some direct or vicarious learning process (Cyert & March, 1963).

tions that see no such benefits. Similarly, when motivated by avoiding losses believed to be associated with a diffusion of a new practice, the threat of losses associated with being perceived as bucking the adoption trend should be associated with working less hard to implement—doing only enough to avoid the stigma of being out of step. This scenario is consistent with the threat-rigidity hypothesis (Staw et al., 1981) and work regarding issue interpretation (Thomas et al., 1993; Whetten, 1988). Thus, we suggest the following hypotheses:

Hypothesis 3a. A motivation to achieve social and economic gains is associated with more-extensive practice implementation.

Hypothesis 3b. A motivation to avoid social and economic losses is associated with less-extensive practice implementation.

Finally, note that our arguments go beyond previous research by suggesting that implementation will vary with respect to not only customization (Westphal et al., 1997), but also the extent of practice implementation.

DATA AND METHODS

The data for this study come from the National Survey of Hospital's Efforts to Improve Quality conducted by the American Hospital Association (AHA) in 1993. The purpose of the study was to "gather information on how hospitals view and improve the quality of patient care they provide" (AHA, 1993). A questionnaire was sent directly to the CEOs of all U.S. community, general surgical hospitals. The instructions requested that the CEOs fill out the questionnaire personally. The leaders of 3,303 hospitals responded to the 5,492 surveys were sent out—a response rate of 60 percent. Of the responding hospitals, 2,230 had adopted some form of TQM. The survey included general questions on hospital size and staff and on competitive conditions and questions relating specifically to TQM, including the type of program in use (if any), reasons for implementing TQM, and implementation activity at a variety of organizational levels.[3]

Our setting and choice of data had two important advantages. First, the data set we used is the same as that used in one of the most highly cited and influential studies of the two-stage diffusion model (i.e., Westphal et al., 1997). Using the same data as this "classic" study allowed us to control for the effects of context and era, eliminating the possibility that different results were a simple function of differences on these dimensions. Accordingly, we are able to make a much stronger case for expanding this original model using the same data than if we had used different data.

Second, the data set is particularly appropriate for our purposes, since it contains information on adoption timing, the motivation for TQM adoption decisions, and TQM implementation, thus allowing a rich examination of how the two logics of efficiency and legitimacy affected both adoption and implementation of practices.

Variables

Dependent variables. Testing our various hypotheses required two sets of dependent variables: a subset reflecting the *motivation* for adoption and another reflecting the extent of *implementation.* Our measure of adoption motivation was based on a series of survey items asking a CEO, "On a scale of 1 to 7, how important were each of the following reasons for your hospital's decision to implement CQI/TQM?"[4] The measure then listed eight items that relate to economic and social gains and losses as reasons for TQM adoption: (1) *loss of market share*, (2) *competition from other hospitals/HMOs*, (3) *improve the technical quality of care provided*, (4) *improve productivity*, (5) *be perceived as a market leader*, (6) *improve service quality*, (7) *improve patient satisfaction*, and (8) *influence of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO)* (listed in order of appearance in the survey). In contrast to the questions used in prior studies, this series of items has the significant advantage of allowing researchers to directly tap motivations for adoption rather than have to infer such motivations from other behavior.

We initially classified these items as follows. Regarding economic motivations, we followed previous research in broadly defining efficiency as relating to improving organizational performance and internal functioning (Tolbert & Zucker, 1983; Westphal et al., 1997). Four adoption reasons listed above related directly to TQM as an opportunity for achieving gains in performance and internal functioning: improve productivity, improve the technical quality of care provided, improve service quality, and improve patient satisfaction. Regarding the threat of economic losses, the AHA offered two adoption reasons relating to the avoidance of com-

[3] Access to these data was generously provided by Professor Stephen Shortell, the principal investigator of the original survey.

[4] "CQI" refers to "continuous quality improvement," a structured approach to implementing TQM.

petitive disadvantage: loss of market share and competition from other hospitals/HMOs.

Regarding social gains and losses, one item related to achieving social gains in the eyes of other constituencies—"to be perceived as a market leader." On the other hand, regulatory agencies such as the JCAHO exerted considerable coercive pressure on hospitals to implement TQM practices (e.g., Levin & Christmann, 2006). Therefore, if a hospital cited JCAHO influence as important, we took this to indicate a view of TQM adoption as a way to avoid social losses.

To further validate whether these measures tapped the constructs of economic and social gains and losses, we took a two-step approach. Our first step was to conduct a series of ten qualitative interviews to better understand how organizational decision makers would interpret the items. For this purpose, we contacted a sample of executives from the health care and other industries, such as consulting, software, and finance. All of those interviewed had experience in either adoption or implementation of new practices in their organizations. Before the interviews, we provided these executives with the questions we used to construct our measures. During the interviews, we elicited the executives' interpretation of these items—specifically, whether the items did indeed relate to social and economic gains or losses, or whether they could be misinterpreted. Interviews lasted an average of 30 minutes.

In a second step, we created a survey instrument to further assess whether the eight items we had identified cleanly tapped into the two dimensions of gains/losses and economic/social. This survey instrument included all of the original eight items. To measure whether they tapped our constructs of a gain/loss orientation, we asked whether each item would fit with either pulling ahead of the competition (gain) or keeping up with the competition to avoid falling behind (loss). Alternatively, to measure whether the items tapped into our constructs of economic versus social goals, we asked whether each item would indicate a desire to either do better in some aspect of their internal operations (economic goal) or look good by communicating quality to external audiences (social goal). Respondents were given two tasks: one of sorting an item into either one of the two options and the other of rating each item using a five-point scale with the two options at the end points (1/5) and the middle (3), indicating that the measure was equally associated with both reasons. We alternated the way in which these measures were presented to the respondents.

We then administered this survey instrument to 25 physicians currently enrolled in an executive MBA program in North America. These respondents were especially helpful in a closer assessment of survey item interpretation because they were all very familiar with TQM as applied in medicine, and many also held significant administrative roles in their practice groups or hospitals.

The results of the qualitative interviews indicated that the options "be perceived as a market leader" and "influence of JCAHO" clearly dealt with social rather than economic issues, and furthermore, that the two differed in that the first reflected a focus on achieving gains, and the second, a focus on avoiding losses. The same results also emerged from our survey data, as both items were consistently checked as being indicating social goals rather than technical ones (means of 0.2 and 0.2; coded as 0 = "social goals", 1 = "technical goals"). Likewise, both items contrasted very well with the more economically oriented items (means from 0.5 to 0.8). In addition, and as predicted, both items differed from each other in that one tapped into a focus on achieving gains, and the other tapped into a focus on avoiding losses (e.g., means of 0.3 and 0.8, respectively; 0 = "focus on gains," 1 = "focus on avoiding losses"). Thus, these two single-item measures were substantively confirmed by both the qualitative interviews and the survey of medical professionals in the MBA program.

Regarding the measures of an economic orientation, our qualitative interviews indicated that only two items cleanly tapped the constructs we intended to capture here: *improve productivity* and *loss of market share*. Other items were perceived as more ambiguous. The results of our survey further confirmed these findings, with these two items again clearly tapping economic issues (means of 1.0 and 0.8; 0 = "social goals," 1 = "technical goals"). Results for other measures were much more ambiguous, with scores around 0.5 and 0.6; thus, we did not retain these indicators.

Both interviews and survey thus indicated that four measures were useful and valid indicators of the constructs we wanted to capture: (1) improve productivity (economic gains), (2) loss of market share (economic losses), (3) be perceived as a market leader (social gains), and (4) influence of JCAHO (social losses).

To further assess these measures, we conducted a principal component factor analysis (with varimax rotation) of these four items. The results indicated a two-factor solution in which three of the four items showed very good loadings (.77–.96) and the fourth item (loss of market share) loaded on the predicted factor (economic losses) but also partially on the other (economic gains). We therefore residualized this measure to remove any shared variation with

the second factor (e.g., Fiss & Hirsch, 2005). To do so, we regressed this item on the two measures of social and economic gains and then subtracted the predicted values from the actual values, leaving the measure with only its unique variation related to economic losses. Using this improved measure resulted in a two-factor solution with all items loading cleanly on the two factors. Table 1 shows loadings and eigenvalues/variances.

As the factor loadings show, improving productivity and being perceived as a market leader load highly on factor 1 (gains), and loss of market share and influence of regulatory agencies load highly on factor 2 (losses). Results also indicate a clean separation between the factors, as shown by the simultaneous low loadings on the alternative factor. These results further confirm the validity of our measures of economic and social gains and losses as reasons for TQM adoption.

Our second set of dependent variables relates to the extent of TQM implementation among hospitals. We measured the extent of practice implementation using three different indicators. (Detailed items for each of these indicators are listed in the Appendix.) The first indicator is a survey item that asked CEOs to indicate, on a scale from 1 to 10, "the extent to which you believe that *at this point in time* CQI/TQM philosophy, principles, and methods have been implemented throughout your hospital" (emphasis in the original). This item is thus an overall indicator of the progress of implementation for a whole organization. The second indicator focused on implementation efforts related to management and personnel. We used two variables here that capture the percentage of senior managers and full-time-equivalent personnel at the hospital that had received formal quality improvement training.

Finally, we used as a third indicator the overall score on the use of TQM tools in a hospital. This measure was calculated as the average number of tools used divided by the possible number of tools used. A total of ten tools were part of this item; examples include Pareto diagrams, histograms, and process flow charts. We further weighted this measure by whether each tool was used by many, few, or no departments/teams at all, thus capturing both the number of tools used and the extensiveness of their use across departments and teams. In combination, these measures tapped how extensively TQM was implemented in a hospital overall, how far training in TQM had progressed, and how many different aspects of TQM were integrated within the various departments of the hospital.[5]

Independent variables. We measured early adoption as an ordinal variable (coded 0 if a hospital began using TQM less than two years ago, 1 for more than two years ago but less than four years ago, and 2 for more than four years ago). We conducted additional analyses using a dichotomous measure of adoption time similar to that used by Westphal et al. (1997), dividing early and late adopters at approximately the midpoint of the observed adoption period and so grouping very early adopters (about 4 percent of all adopters) with early adopters. Using the alternative measure had essentially no effect on results. Finally, in our analyses of implementation, we used our measures of motivation described above as the independent variables.

Control variables. The size of an organization has been found to affect the speed of adoption (e.g., Hannan & McDowell, 1984). Following previous research (Westphal et al., 1997), we therefore controlled for hospital size using the total number of staffed beds. Results were identical whether we used this untransformed measure or a logged measure. Also in keeping with previous research, we

TABLE 1
Results of Factor Analysis of Adoption Motivations[a]

Items	Factor 1	Factor 2	Uniqueness
Improve productivity	**0.83**	0.09	0.31
Loss of market share	0.05	**0.75**	0.44
Be perceived as market leader	**0.83**	−0.04	0.30
Influence of JCAHO	−0.01	**0.75**	0.43
Eigenvalue	1.40	1.11	
Proportion	0.35	0.28	
Likelihood ratio test chi-square (*df*)	303.88 (6)***		

[a] Significant loadings are shown bold.
*** $p < .001$

[5] Besides the four measures reported here, we further developed two additional measures of implementation. The first assessed the maturity of TQM implementation and was calculated as the number of TQM activities the hospital was currently engaged in. The item included a total of ten such activities, ranging from benchmarking to the formation of project teams and the incorporation of TQM in reward and performance-appraisal systems. The second additional measure was the number and percentage of clinical review activities a hospital was involved in, including the use of clinical and cost data in reviewing physician privileges and credentials, patient satisfaction surveys, and organized case management. We obtained very similar results for these additional measures, indicating that we captured a broad spectrum of implementation activities relating to the scope and pace of implementation (Amis, Slack, & Hinings, 2004). Results are available from the authors on request.

included dummy variables indicating whether a hospital belonged to a multihospital system under common ownership or a strategic alliance involving contractual agreements (Levin & Christmann, 2006; Westphal et al., 1997). Such network ties may provide access to the experiences of other organizations, possibly affecting hospitals' likelihood of adopting TQM practices. Since the technological sophistication and knowledge base of a hospital may also influence its likelihood of implementing new practices, we added two control variables that assessed this sophistication. The first such variable assessed whether the hospital performed high-technology services in-house. These services included stereotactic radiosurgery, magnetic resonance imaging (MRI), position emission tomography (PET), single photon emission computed tomography (SPECT), kidney transplants, other organ transplants, tissue transplants, and bone marrow transplants (Westphal et al., 1997). We combined these into an index of technological sophistication that showed strong reliability ($\alpha = .83$). The second measure is a dummy variable, coded 1 for a teaching hospital (i.e., one approved by the Accreditation Council for Graduate Medical Education to train medical residents) (Levin & Christmann, 2006).

To guard against the possibility that competitive pressures from health maintenance organizations (HMOs) influenced our findings, we furthermore controlled for the number of competing hospitals and HMOs in a hospital's area. Finally, since maturation and experience with a practice are likely to influence extent of implementation, we controlled for the time of adoption in the models that focus on implementation.

Analysis

Since we employed multiple dependent variables, our analysis proceeded in two steps. In the first step, we used ordinary least square (OLS) regression to estimate the relationship between early adoption and motivation, using different motivations as dependent variables in a series of equations.[6] Because these equations used the same independent variables, we additionally estimated models using Zellner's (1962) seemingly unrelated regression (SUR) model, which allows for correlated errors between equations. However, our results were essentially identical. Note also that our analysis was explicitly correlational, not causal; we examined whether early adoption decisions tend to be marked by a concern for social and economic gains and later adoption decisions are marked by a concern for avoiding social and economic losses.[7]

In a second step, we used OLS to estimate the extent of TQM implementation. Because our dependent variables were percentages and scales, we again log-transformed them. Since we were interested in motivations for adoption, all of our analyses focused on the sample of 2,230 hospitals that actually did adopt TQM management, since only those hospitals provided information on adoption motivations.[8]

RESULTS

Table 2 presents the descriptive statistics and a correlation matrix for all variables. Table 3 shows the results of OLS and SUR models of the relationship between motivations and adoption period. For each dependent variable, the first model includes only the control variables, the second adds the early adoption variable, and the third shows the result for the same set of variables using the SUR model. The results indicate mixed support for an institutional model of diffusion that suggests different and complementary motivations for adoption over a diffusion process.

Regarding our predictions linking motivation to adoption timing, Hypothesis 1a states that the perceived opportunity of achieving economic gains motivates early adopters. Interestingly, and in contrast to the predictions of the conventional diffusion model, this hypothesis was not supported; the coefficient for early adopters is not significant in models 2 and 3. It appears that early adopters are no more motivated by economic gains than are later adopters. In contrast, we did find support for Hypothesis 1b, which holds that the perceived oppor-

[6] We estimated additional models using the natural log of these dependent variables, and our results were essentially unaffected by this transformation.

[7] To underscore this point, we conducted further analyses that used motivations as independent variables and adoption timing as the dependent variable. Not surprisingly, our results were substantively identical, regardless of whether independent and dependent measures were reversed.

[8] Though Westphal et al. (1997) used a Heckman selection model to control for possible sample selection bias, the main advantage of this model was to allow estimation of the value of a dependent variable that would be observed in the absence of selection. However, since our interest was instead in the significance of the independent variables, modeling adopters separately was more appropriate, since it was considerably more robust than the selection model, and prediction bias has been shown to be negligible (Manning, Duan, & Rogers, 1987).

TABLE 2
Descriptive Statistics and Pearson Correlation Coefficients[a]

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Early adopters	0.31	0.54															
2. Economic gains	5.54	1.20	−.04														
3. Social gains	5.20	1.65	.06	.38													
4. Economic losses	3.01	1.21	−.07	.07	.02												
5. Social losses	4.58	1.82	−.17	.05	.01	.13											
6. Hospital size	226.98	197.02	.15	−.02	.08	−.12	−.11										
7. Alliance membership	0.33	0.47	.06	.03	.08	−.02	−.06	.23									
8. System membership	0.45	0.50	.09	.01	.05	−.07	−.01	.15	−.01								
9. Technological sophistication	0.52	0.63	.02	−.03	.01	−.03	−.05	.21	.04	.11							
10. Teaching hospital	0.10	0.30	.07	−.02	.03	−.07	−.09	.57	.11	.02	.18						
11. Competition from HMOs	5.49	7.54	.00	.01	.03	.08	.01	.20	.04	.07	.12	.13					
12. Competition from other hospitals	4.56	4.44	.06	.01	.05	.03	−.07	.24	.09	.07	.06	.25	.25				
13. Extent TQM implemented throughout hospital	4.03	2.50	.23	.04	.07	−.04	.03	−.05	−.04	.02	.00	−.04	.02	.01			
14. Percent senior management trained	87.84	25.46	.07	.06	.08	−.04	−.08	−.04	.00	.06	.02	−.06	−.03	−.01	.09		
15. Percent FTE staff trained	27.11	32.22	.24	.00	.04	−.06	−.10	−.03	.02	.11	−.02	.00	−.06	.02	.26	.24	
16. Use of TQM tools by teams/departments	2.05	0.45	.27	.08	.12	−.09	−.11	.25	.13	.12	.04	.12	.04	.08	.14	.16	.16

[a] n = 1,705.

tunity of social gains motivates early adopters, as indicated by the positive and significant coefficients for early adopters in models 5 and 6.

Hypothesis 2a states that the perceived threat of incurring economic losses motivates later adopters. Again, we find support for this hypothesis. As shown in models 8 and 9, hospitals that were early adopters were significantly less likely to indicate competition as important to their adoption decisions. We also found support for Hypothesis 2b, the prediction that the perceived threat of social losses related to appearing illegitimate motivates later adopters. The coefficients for early adopters are again significant and negative in models 11 and 12. In sum, three of the four hypotheses relating to the different effects of adoption motivations were supported.

TABLE 3
Results of Regression Models Predicting Motivation for TQM Adoption[a]

	Economic Gains						Social Gains					
Independent Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Early adopters			−0.10	(0.06)	−0.10	(0.06)			0.14*	(0.08)	0.14*	(0.08)
Hospital size	−0.00	(0.00)	−0.00	(0.00)	−0.00	(0.00)	0.00*	(0.00)	0.00	(0.00)	0.00	(0.00)
Alliance membership	0.08	(0.06)	0.09	(0.06)	0.09	(0.06)	0.23**	(0.09)	0.22*	(0.09)	0.22*	(0.09)
System membership	0.05	(0.06)	0.05	(0.06)	0.05	(0.06)	0.13	(0.08)	0.12	(0.08)	0.12	(0.08)
Technical sophistication	−0.05	(0.05)	−0.05	(0.05)	−0.05	(0.05)	−0.03	(0.07)	−0.03	(0.07)	−0.03	(0.07)
Teaching hospital	−0.04	(0.12)	−0.05	(0.12)	−0.05	(0.12)	−0.15	(0.17)	−0.14	(0.17)	−0.14	(0.17)
Competition from HMOs	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.01)	0.00	(0.01)	0.00	(0.01)
Competition from hospitals	0.00	(0.01)	0.00	(0.01)	0.00	(0.01)	0.01	(0.01)	0.01	(0.01)	0.01	(0.01)
Constant	5.53***	(0.06)	5.55***	(0.06)	5.55***	(0.06)	4.90***	(0.08)	4.88***	(0.08)	4.88***	(0.08)
Adjusted R^2	.00		.00		.00		.00		.01		.02	
F/χ^2	0.72		1.05		8.46		3.29**		3.32***		26.73***	
df	7, 1,697		8, 1,696				7, 1,697		8, 1,696			

[a] Standard errors are in parentheses; n = 1,705.

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Significance tests are one-tailed for directional hypotheses and two-tailed for control variables.

Although a test of statistical significance suggests support for three of the four hypotheses, note that overall model fit is not strong. Using Cohen's (1988) definition of small (R^2 = .02) and medium (R^2 = .15) effects, the substantive significance of our results clearly falls within the small category. As such, our results raise important questions as to the substantive significance of predictor variables based on the institutional diffusion model. We discuss the implication of these results in more detail below.

Regarding the control variables, the models indicate that competition from HMOs is positively related to both economic and social losses, thus offering further support for the assumption that competition from other firms is an important concern, both economically and socially, in adoption. We also find that alliance membership is correlated with a concern for achieving social gains by means of TQM adoption, indicating that belonging to multihospital alliance apparently also affects motivation for adoption.

Table 4 presents results for the OLS regressions predicting the extent of TQM implementation. Hypothesis 3a states that economic and social gain motivations are positively associated with the extent of practice implementation, and Hypothesis 3b predicts the opposite effect for loss avoidance motivations. The results offer considerable support for Hypothesis 3a. A social gain motivation was positively and significantly associated with implementation in three of the four outcome measures. For economic gains, the findings were slightly less strong, with models 4 and 8 showing significant positive effects, and in models 2 and 6 the coefficients were in the predicted direction but did not reach significance. In sum, five of eight coefficients are positive and significant, thus lending considerable, consistent support to Hypothesis 3a.

Regarding the effect of loss avoidance motivations on implementation, our results indicated strong support for Hypothesis 3b, which predicts that economic and social loss motivations are associated with lower levels of implementation. For economic losses, all four coefficients were negative and significant, although for models 4 and 6 the coefficients dropped to the .10 significance level. For social losses, three of the four coefficients were again negative and significant, also supporting Hypothesis 3b. Overall, seven out of eight coefficients were significant, as predicted, but model fit here was not very strong, with R^2 values comparable to those for the models predicting adoption motivations.

Finally, regarding the control variables for these models, we found the expected significant correlation between early adoption and extent of implementation, suggesting that TQM efforts do mature as hospitals gain experience with them. It also appears that large hospitals showed less extensive implementation, likely owing to the greater cost of such implementation activities. Results indicated that system member hospitals were more likely than other hospitals to train management and per-

TABLE 3
Continued

Economic Losses						Social Losses					
Model 7		**Model 8**		**Model 9**		**Model 10**		**Model 11**		**Model 12**	
		−0.11*	(0.06)	−0.11*	(0.06)			−0.51***	(0.08)	−0.51***	(0.08)
−0.00***	(0.00)	−0.00***	(0.00)	−0.00***	(0.00)	−0.00**	(0.00)	−0.00*	(0.00)	−0.00*	(0.00)
0.02	(0.06)	0.03	(0.06)	0.03	(0.06)	−0.13	(0.10)	−0.11	(0.10)	−0.11	(0.01)
−0.15*	(0.06)	−0.14*	(0.06)	−0.14*	(0.06)	0.01	(0.09)	0.05	(0.09)	0.05	(0.09)
−0.02	(0.05)	−0.02	(0.05)	−0.02	(0.05)	−0.08	(0.07)	−0.08	(0.07)	−0.08	(0.07)
−0.08	(0.12)	−0.08	(0.12)	−0.08	(0.12)	−0.15	(0.18)	−0.17	(0.18)	−0.17	(0.18)
0.02***	(0.00)	0.02***	(0.00)	0.02***	(0.00)	0.01	(0.01)	0.01	(0.02)	0.01	(0.01)
0.01	(0.01)	0.01	(0.01)	0.01	(0.01)	−0.02	(0.01)	−0.02	(0.01)	−0.02	(0.01)
3.12***	(0.06)	3.14***	(0.06)	3.14***	(0.06)	4.88***	(0.09)	4.97***	(0.09)	4.97***	(0.09)
.02		.03		.03		.01		.04		.04	
7.89**		7.46**		59.99***		4.55***		9.01***		72.46***	
7, 1,697		8, 1,696				7, 1,697		8, 1,696			

TABLE 4
Results of OLS Regression Models Predicting TQM Implementation[a]

Independent Variables	Percent TQM Implementation throughout Hospital		Percent Senior Management Trained in TQM		Percent FTE Staff Trained in TQM		Use of TQM Tools by Departments/Teams	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Economic gains		0.06 (0.05)		0.99* (0.58)		0.23 (0.74)		0.03** (0.01)
Social gains		0.08* (0.04)		0.88* (0.42)		0.49 (0.54)		0.02* (0.01)
Economic losses		−0.10* (0.05)		−0.71† (0.54)		−0.92† (0.69)		−0.02* (0.01)
Social losses		0.09** (0.03)		−1.01** (0.36)		−1.07** (0.46)		−0.01* (0.01)
Early adopters	1.14*** (0.12)	1.17*** (0.11)	3.67** (1.23)	2.99* (1.24)	14.91*** (1.57)	14.17*** (1.59)	0.19*** (0.02)	0.18*** (0.02)
Hospital size	−0.00** (0.00)	−0.00** (0.00)	−0.01 (0.00)	−0.01 (0.00)	−0.02*** (0.01)	−0.02*** (0.01)	0.00*** (0.00)	0.00*** (0.00)
Alliance membership	−0.23† (0.13)	−0.24 (0.13)	0.75 (1.39)	0.41 (1.39)	2.05 (1.78)	1.91 (1.78)	0.07** (0.02)	0.06* (0.02)
System membership	0.01 (0.12)	−0.02 (0.12)	2.87* (1.31)	2.69* (1.31)	6.66*** (1.67)	6.50*** (1.67)	0.06** (0.02)	0.05* (0.02)
Technological sophistication	0.06 (0.10)	0.07 (0.10)	1.14 (1.05)	1.03 (1.05)	−0.69 (1.31)	−0.76 (1.30)	−0.01 (0.02)	−0.01 (0.02)
Teaching hospital	−0.07 (0.24)	−0.05 (0.24)	−4.38† (2.65)	−4.41† (2.63)	3.68 (3.28)	3.46 (3.28)	−0.03 (0.04)	−0.02 (0.04)
Competition from HMOs	0.01 (0.01)	0.01 (0.01)	−0.10 (0.09)	−0.08 (0.09)	−0.22* (0.11)	−0.20† (0.11)	−0.00 (0.00)	0.00 (0.00)
Competition from hospitals	0.01 (0.01)	0.01 (0.01)	0.02 (0.15)	−0.01 (0.15)	0.19 (0.19)	0.18 (0.19)	0.00 (0.00)	0.00 (0.00)
Constant	3.89*** (0.12)	2.98*** (0.37)	86.56*** (1.33)	84.00*** (3.95)	23.24*** (1.73)	27.72*** (5.09)	1.84*** (0.02)	1.72*** (0.06)
n	1,679	1,679	1,589	1,589	1,454	1,454	1,610	1,610
Adjusted R^2	.06	.07	.01	.03	.07	.08	.12	.14
F	14.07***	11.18***	2.94**	3.77***	15.46***	11.10***	29.52***	22.35***

[a] Standard errors are in parentheses.

Significance tests are one-tailed for directional hypotheses and two-tailed for control variables.

† $p \leq .10$

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

sonnel in TQM practices, and to use more TQM tools more widely throughout the organization.

The survey-based measures we employed in this study have been extensively used in organizational research and are considered a viable methodology, provided that the measures used to generate the reports are adequately reliable and valid (Miller, Cardinal, & Glick, 1997). In the case of the data used here, there is considerable reason to believe that these conditions have been met. The administration of the survey followed the guidelines offered by Huber and Power (1985) regarding proper retrospective data collection. Pretesting and discussions with industry experts had determined that the hospitals CEOs and top quality managers were the most knowledgeable respondents for our questions. Furthermore, where there was the opportunity to assess test-retest reliability for a subset of 45 hospitals representative of the larger sample, responses were found to be consistent, with kappa coefficients between 95.6 and 97.8 (Westphal et al., 1997). As such, it seems reasonable to assume that these survey responses presented acceptable measures.

Additionally, there is further reason to believe that informant fallibility presents less of a concern here. Although the ability of respondents to adequately recall motivations is arguably subject to some retrieval error, the resulting distortion should, if anything, add noise and thus provide a conservative test of our hypotheses. Furthermore, although there may be a bias against self-reported accounts of adoption that favor conformity over technical gains, it is not clear why or how this bias would change over time. Thus, we would not expect it to produce the pattern of temporal differences we predict here.

Although we believe that our data are valid indicators, and although we used multiple methods to externally validate our measures, we decided to conduct additional analyses to check against the possibility that reasons given by the original survey respondents might be the result of rationalization over time. A useful way of accomplishing this was to examine whether espoused adoption reasons could be linked to actual behavior. Our analyses of various implementation behaviors do address this issue, yet it is true that our data come from the same survey, raising the possibility of common method bias. We therefore collected additional data from another source to construct another measure of behavior external to our original survey data. Specifically, we obtained performance data for the hospitals in our sample from the American Hospital Association. Using these data, we constructed a measure of organizational performance to examine whether the extent of TQM implementation predicted by our focal indicators was associated with increased performance (Douglas & Judge, 2001). We chose an efficiency measure of organizational performance as one of the most widely used measures on hospital performance (e.g., Golden & Zajac, 2001; Magnussen, 1996). The measure is calculated as operating expenses divided by the number of full-time equivalent employees. We used performance data for 1994 (the first year following the survey, which was administered in 1993). Furthermore, our analyses controlled for prior performance using the same measure for 1992, as well as all variables from our substantive analyses.

Results indicated that the degree of TQM implementation is indeed significantly associated with performance improvements for three out of four of our measures of implementation. These findings further reduce the likelihood that espoused adoption reasons may have been merely the result of self-report bias and ex post rationalization. For instance, if it were indeed the case that hospitals adopt for social reasons but, under to a social desirability bias, later justify their decisions as based on economic efficiencies, then it is not clear why such an ex post rationalization should be associated with higher levels of actual implementation and indeed subsequently better performance.

DISCUSSION

Following recent calls for rethinking the two-stage diffusion model and the relationship between adoption timing and motivation (Cebon & Love, 2008; Donaldson, 1995; Lounsbury, 2007), this article offers a fresh look at combining rational and social accounts of practice diffusion by asking whether a concern with avoiding social losses necessarily precludes a concern with avoiding economic ones. In answer, we offer a more detailed model of the institutional diffusion process by arguing that social and economic motivations for adopting diffusing innovations are not mutually exclusive concerns; that is, wanting to look good does not preclude also wanting to do better. Furthermore, our perspective links motivations for adopting diffusing innovations to how far organizations should go in implementing them.

To support this new model, we have shown connections between macro and micro levels of theorizing about diffusion of innovation and motivations for adopting. Specifically, we have linked institutional theory with the literature on organizational actions in response to threats and opportunities to explore how adoption decisions are shaped over the course of diffusion. The model

outlined here relates adopting organizations' concerns with economic and social gains (or losses) to whether these organizations are approaching adoption decisions by focusing on achieving gains or on avoiding losses. By doing so, we connect institutional theory's concern with cognition to work in social psychology that has explained differences in willingness to try new things, where doing so entails both the risk of loss and the potential for gain.

We believe this argument addresses a long-standing opportunity at the intersection of organization theory and organizational behavior, particularly with respect to the topic of innovation and diffusion. The diffusion of practices rightly has been an important topic in the organization theory and management literatures for some time, and issues involving motivation and cognition have been central to most adoption accounts. Nonetheless, with few exceptions (e.g., Ocasio, 1997), these accounts have remained largely disconnected from the considerable body of work in social psychology and organizational behavior that could deepen and extend understanding of the phenomenon. As a result, the question of what exactly motivates adopters has received remarkably little attention, and, in our view, the separation of logics of instrumentality and appropriateness has been exaggerated. The current study thus builds on prior work that has argued for the cultural contingency of rationality (e.g., Dobbin, 1994; Lounsbury, 2007; Scott et al., 2000) by connecting institutional theory to arguments from social psychology regarding how motivations are affected by the framing of decisions in terms of gains and losses.

To test our argument, we analyzed how the progress of diffusion relates to both accounts of hospital TQM adoption and the extent of its implementation. Over the course of TQM diffusion, we analyzed whether adopters reported having been concerned with looking good, doing better, or both. We reconceptualized the key difference between early and later adopters as one of being concerned with gains versus losses rather than with economic versus social outcomes of adoption (or nonadoption). As predicted, our findings reveal considerably greater heterogeneity in adoption motivations than was previously theorized.

Specifically, we found that—contrary to prior accounts—early adopters are in fact concerned with social gains, while later adopters are also concerned with avoiding economic losses. These findings lend support to our view that neither timing nor the progress of diffusion makes economic and social outcomes mutually exclusive concerns. Furthermore, we did not find support for the view that early adopters are predominantly concerned with economic gains, as suggested by the classic two-stage model. In fact, the findings of this study suggest that early adopters are no more motivated to achieve economic gains than later ones; or, to put it the other way around, later adopters are no less motivated to achieve economic gains than are early ones. Rather than supporting the two-stage model, our results are consistent with other studies that have not shown differences between early and later adoption periods (e.g., Kraatz & Zajac, 1996).

Our findings thus suggest that concerns with economic gains are not as period-dependent as has been argued; rather, they may be more universally shared. On the basis of the current study, we can only speculate as to why this is the case, but it appears possible that aspirations to achieve economic gains may be, to some extent, independent of the diffusion process. For instance, if the theorization of TQM as offering performance benefits appears compelling to adopting organizations throughout a diffusion process, then one would not expect to see differences between early and later adopters in terms of economic gains as a motive for adoption. However, the same may not be true for concerns about economic losses, which are likely to be period-dependent, as they are products of the competitive dynamics of the diffusion process. The lack of support for Hypothesis 1a is also interesting, as our results did indicate support for Hypothesis 1b, which holds that perceived opportunities for achieving social gains motivate early adopters. A main difference between early and later adopters would thus appear to be their perception of whether an innovation has the potential for social rather than economic gains, which, if true, would offer support for accounts of practice diffusion that point to the importance of the legitimation of a practice and the social construction of success (e.g., Sine & Lee, 2009; Strang & Macy, 2001; Suddaby & Greenwood, 2005).

In addition, we analyzed how implementation efforts relate to the motivations of both early and later adopters. We hypothesized and found that the extent of implementation is related to concerns about gains and losses in a manner that parallels the effects on adoption. Among hospitals adopting TQM, those reporting a concern for achieving economic and social gains did more to implement TQM. Conversely, we found less complete implementation among adopters whose responses indicated a concern for economic and social losses.

Taken together, the results of our analyses raise important questions regarding the substantive ability of the institutional two-stage model to explain diffusion processes. Although we find statistically significant support for the institutional diffusion

model, the variation in motivation explained by adoption timing is relatively small. There are at least two possible explanations for this. First, since motivations are determined by the complex collections of particulars that define hospitals' situations and distinguishing attributes, perhaps it should not be surprising to find that adoption timing—a single predictor—does not explain a large portion of the overall variance. Nonetheless, among all firm variations, adoption timing is consistent enough in its effect to be a statistically significant predictor of a small effect. Thus, given the lack of studies that directly examine adoption motivation, the current models offer a step toward a better understanding of adoption motivations.

However, a second and potentially much more significant explanation of the current findings is that adoption timing is perhaps not as strong a predictor of motivation as its prominence in the institutional literature suggests. As we have pointed out, prior research has so far relied on indirect measures and the absence of significant effects to offer support for the institutional diffusion model. Our direct assessment of the predictors of adoption motivations, although providing some support for the effect of adoption timing, nevertheless indicates that the adoption motivations of early and late adopters apparently do not vary enough to make the two-stage model of diffusion a powerful predictor. Such a finding, if confirmed, would suggest that future research should look beyond adoption timing for better accounts of motivation.[9]

In sum, we believe our study makes three contributions to organization theory. First, we extend institutional theory's concern with cognition by taking it seriously enough to link it with closely related work in social psychology—work that we believe gives depth and foundation to the process of institutionalization, an essential aspect of institutional theory. Although institutional theory links macrosocial phenomena such as organizational structure and practice to cognitive and motivational factors, so far very little work has been designed to explore how these connections actually work (George et al., 2006). We believe this cross-level integration of theory is important for a theory that is centrally concerned with cognition and conformity. We thus see our study as following Lounsbury's call to look past the two-stage model to "redirect the study of institutional diffusion toward finer-grained mechanisms, including the translation of symbolic systems of meaning and processes of practice creation that spawn and are influenced by the heterogeneity of actors and activities that underlie apparent conformity" (2007: 289–290; references omitted). As a complement to Lounsbury's work, we have sought finer-grained mechanisms by going down to the micro level to examine the interactions of institutional and cognitive factors, an area that has so far largely been neglected.

Second, the prior use of indirect measures has made it difficult to say much about such motivations directly. Fortunately, the data for this study provide a considerable window into the reasons why organizational decision makers adopted a new practice. To our knowledge, our study is the first to directly assess adoption motivations rather than merely infer such motivations from either the absence of significant coefficients or postadoption behavior. Since the conventional two-stage model of adoption motivations forms one of the central propositions of the diffusion literature, our findings thus carry important consequences for this branch of research, as well as for institutional theory more broadly. In particular, our study illustrates the value of research designs that examine motivations and furthermore validate their findings by developing additional hypotheses regarding their effect on outcomes of interest. As we have shown, looking at both motivations and their predicted effects provides a richer picture of how decisions are made, enriching our view of both the decision process and the decision makers themselves. Specifically, we have shown that both early and late adopters report having both social and economic motivations for adopting TQM, albeit for pursuing social and economic gains versus avoiding social and economic losses. Overall, our findings support rethinking the institutional diffusion model's dichotomization of social and technical motivations for adopting innovations.

Finally, the current study deepens understanding of why the implementation of new practices is frequently shallow or even nonexistent (e.g., Meyer & Rowan, 1977; Westphal & Zajac, 1994)—an area that has drawn increasing research attention. In

[9] To further examine this question, we also conducted analyses to test whether social and economic motivations, in general, differed for early versus later adopters. For these analyses, we combined the separate measures for pursing economic gains and avoiding economic losses to produce an aggregate measure for economic reasons for adopting. Similarly, we created an aggregate measure for social reasons for adopting. Both combined measures were negatively related to early adoption, most likely because in these combined measures the weaker effect of the gains measures was overwhelmed by the stronger effect of the loss measures. Although effect sizes remain quite small, it thus appears that most of the "action" emerges later in the diffusion process.

particular, we have shown that patterns of implementation are importantly driven by the interpretation of the motivation to adopt. Our finding that a motivation to achieve gains rather than avoid losses is related to more extensive implementation demonstrates how adoption motivations reach beyond an adoption decision to affect implementation. Since the successful implementation of organizational change is notoriously difficult, we believe it is necessary to examine both motivation and outcomes to fully understand partial implementation processes.

Directions for Future Research

Although this study went considerably beyond previous research to directly examine adoption motivations, more work is needed to understand how adoption and implementation relate to organizations' interpretations of situations in terms of gains and losses. As we designed the survey data used in this study to offer an extensive view of adoption activity in an entire industry, these data trade breadth for depth and therefore do not offer the detailed analysis that an ethnographic study of the adoption process could. Such a study could uncover factors that mediate the link between adoption timing and motivations.

Furthermore, additional work is needed to understand the factors that lead organizations to interpret adoption situations with a view to either pursuing an opportunity or avoiding a threat. For instance, are some organizations more responsive to the avoidance of threats versus the pursuit of opportunity? If so, what other factors (e.g., top management team composition, industry characteristics, organizational life cycle) might predict issue interpretation (Jackson & Dutton, 1988)? Such work could provide new insights into the interplay between institutionally defined motivations and adoption patterns in a variety of fields.

Another promising approach for future research would be to shift the focus to further longitudinal models of practice adoption and implementation. Such a shift would allow researchers to say considerably more about the relationship between timing and motivation than is currently possible. As we noted earlier, the data used here suggested associations but did not allow us to test causal relationships. In contrast, longitudinal data would allow us to explore in more detail the links between motivations and adoption timing. Such data would also enable future research to examine how, perhaps, different models of a practice emerge, spread, or are abandoned in diffusion, allowing for a truly dynamic modeling of the process, whereby later adopters can learn from the experiences of earlier adopters and early adopters may likewise modify their practices to conform to models that only emerge later in a given diffusion process. However, such longitudinal models face considerable challenges of data collection on adoption motivations, especially when an adoption period spans half a decade, as was the case here. As an alternative to archival data, we believe experimental work could fruitfully extend theorizing about the mechanisms at work here. Specifically, such work could deepen understanding of the links between cognition, motivation, and organizational decision making. The resulting data would also allow us to explore in more detail the differential ability of economic motivations to predict implementation.

It is also worth noting that the data in our study come from a highly regulated industry, in which institutional norms loom particularly large (Deephouse, 1996). Although legitimacy concerns or the value of being perceived as a market leader may not be as great in less-regulated industries, other research has suggested that gains from social approval may also be found in different industries (e.g., Staw & Epstein, 2000). However, more research is needed to establish the role of industry in setting boundary conditions for the effect of both economic and social gains and losses.

Conclusion

In this study we aimed to rethink the role of motivations in the diffusion of practices among organizations. Specifically, we have argued that logics of efficiency and legitimacy are more compatible than has been generally assumed. Both legitimacy and efficiency factor into the moves of both early and later adopters—that is, wanting to look good does not preclude wanting to do well. Although organizations and managers are frequently subject to constraints that limit their ability to be mindful of practices or habits of thinking that are taken for granted in their institutional environments, we believe the extent of mindless imitation has been overstated. Early on, institutional theory was criticized for casting managers as unreflective followers of whatever appeared to be legitimate (Perrow, 1986), but more recent research has taken considerable steps toward recognizing greater managerial agency (cf. Dacin, Goodstein, & Scott, 2002). We suggest such approaches will benefit considerably from drawing on social psychology to enrich the theory of managerial motivations (George et al., 2006). The current article represents a further step in this direction.

REFERENCES

Abrahamson, E. 1991. Managerial fads and fashions: The diffusion and rejection of innovations. ***Academy of Management Review,*** 16: 586–612.

Abrahamson, E. 1996. Management fashion. ***Academy of Management Review,*** 21: 254–285.

Abrahamson, E., & Rosenkopf, L. 1993. Institutional and competitive bandwagons: Using mathematical modeling as a tool to explore innovation diffusion. ***Academy of Management Review,*** 18: 487–517.

Abrahamson, E., & Rosenkopf, L. 1997. Social network effects on the extent of innovation diffusion: A computer simulation. ***Organization Science,*** 8: 289–309.

American Hospital Association. 1993. ***National survey of hospital's efforts to improve quality.*** Chicago: American Hospital Association.

Amis, J., Slack, T., & Hinings, C. R. 2004. Strategic change and the role of interests, power and organizational capacity. ***Journal of Sport Management,*** 18: 158–198.

Ansari, S., Fiss, P. C., & Zajac, E. J. How practices vary as they diffuse: A framework for analysis. ***Academy of Management Review***, in press.

Baron, J. N., Dobbin, F. R., & Jennings, P. D. 1986. War and peace: The evolution of modern personnel administration in US industry. ***American Journal of Sociology,*** 92: 350–383.

Burns, L. R., & Wholey, D. R. 1993. Adoption and abandonment of matrix management programs: Effects of organizational characteristics and interorganizational networks. ***Academy of Management Journal,*** 36: 106–138.

Carroll, G. R., & Hannan, M. T. 1989. Density dependence in the evolution of populations of newspaper organizations. ***American Sociological Review,*** 54: 524–541.

Cebon, P., & Love, E. G. 2008. Meanings on multiple levels: Organizational culture and diffusion in institutionalized environments. ***Journal of Management Studies,*** 45: 239–267.

Chattopadhyay, P., Glick, W. H., & Huber, G. P. 2001. Organizational actions in response to threats and opportunities. ***Academy of Management Journal,*** 44: 937–955.

Cohen, J. 1988. ***Statistical power analysis for the behavioral sciences*** (2nd ed.). Hillsdale, NJ: Erlbaum.

Cool, K. O., Dierickx, I., & Szulanski, G. 1997. Diffusion of innovations within organizations: Electronic switching in the Bell system, 1971–1982. ***Organization Science,*** 8: 543–559.

Cyert, R. M., & March, J. G. 1963. ***A behavioral theory of the firm.*** Englewood Cliffs, NJ: Prentice-Hall.

Dacin, M. T., Goodstein, J., & Scott, W. R. 2002. Institutional theory and institutional change: Introduction to the special research forum. ***Academy of Management Journal,*** 45: 45–56.

Davis, G. F., & Greve, H. R. 1997. Corporate elite networks and governance changes in the 1980s. ***American Journal of Sociology,*** 103: 1–37.

Deephouse, D. L. 1996. Does isomorphism legitimate? ***Academy of Management Journal,*** 39: 1024–1039.

Deming, W. E. 1993. ***The new economics for industry, government, education.*** Cambridge, MA: MIT Press.

DiMaggio, P. J. 1997. Culture and cognition. In J. Hagan & K. S. Cook (Eds.), ***Annual review of sociology,*** vol. 23: 263–287. Palo Alto, CA: Annual Reviews.

DiMaggio, P. J., & Powell, W. W. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. ***American Sociological Review,*** 48: 147–160.

DiMaggio, P. J., & Powell. W. W. 1991. Introduction. In W. W. Powell & P. J. DiMaggio (Eds.), ***The new institutionalism in organizational analysis:*** 1–38. Chicago: University of Chicago Press.

Dobbin, F. 1994. ***Forging industrial policy: The United States, Britain, and France in the railway age.*** Cambridge, U.K.: Cambridge University Press.

Donaldson, L. 1995. ***American anti-management theories of organization.*** New York: Cambridge University Press.

Douglas, M. 1986. ***How institutions think.*** Syracuse, NY: Syracuse University Press.

Douglas, T. J., & Judge, W. Q. 2001. Total quality management implementation and competitive advantage: The role of structural control and exploration. ***Academy of Management Journal,*** 44: 158–169.

Dutton, J. E., Fahey, L., & Narayanan, V. K. 1983. Toward understanding strategic issue diagnosis. ***Strategic Management Journal,*** 4: 307–323.

Dutton, J. E., & Jackson, S. E. 1987. Categorizing strategic issues: Links to organizational action. ***Academy of Management Review,*** 12: 76–90.

Edelman, L. B. 1992. Legal ambiguity and symbolic structures: Organizational mediation of civil rights law. ***American Journal of Sociology,*** 97: 1531–1576.

Fiss, P. C., & Hirsch, P. M. 2005. The discourse of globalization: Framing and sensemaking of an emerging concept. ***American Sociological Review,*** 70: 29–52.

Fiss, P. C., & Zajac, E. J. 2004. The diffusion of ideas over contested terrain: The (non)adoption of a shareholder value orientation among German firms. ***Administrative Science Quarterly,*** 49: 501–534.

Fiss, P. C., & Zajac, E. J. 2006. The symbolic management of corporate strategy: Framing, decoupling, and strategic change. ***Academy of Management Journal,*** 49: 1173–1193.

Gamson, W. A., & Meyer, D. S. 1996. Framing political opportunity. In D. McAdam, J. D. McCarthy, & M. N.

Zald (Eds.), ***Comparative perspectives on social movements:*** 275–290. New York: Cambridge University Press.

George, E., Chattopadhyay, P., Sitkin, S. B., & Barden, J. 2006. Cognitive underpinnings of institutional persistence and change: A framing perspective. ***Academy of Management Review,*** 31: 347–365.

Geroski, P. A. 2000. Models of technology diffusion. ***Research Policy,*** 29: 603–625.

Gilbert, C. G. 2005. Unbundling the structure of inertia: Resource vs. routine rigidity. ***Academy of Management Journal,*** 48: 741–763.

Golden, B. R., & Zajac, E. J. 2001. When will boards influence strategy? Inclination × power = strategic change. ***Strategic Management Journal,*** 22: 1087–1111.

Goodstein, J. D. 1994. Institutional pressures and strategic responsiveness: Employer involvement in work-family issues. ***Academy of Management Journal,*** 37: 350–382.

Glick, H. R., & Hays, S. P. 1991. Innovation and reinvention in state policymaking: Theory and the evolution of living will laws. ***Journal of Politics,*** 53: 835–850.

Green, S. 2004. A rhetorical theory of diffusion. ***Academy of Management Review,*** 29: 653–669.

Green, S. E., Li, Y., & Nohria, N. 2009. Suspended in self-spun webs of significance: Conceptualizing institutionalization as change in argument structure. ***Academy of Management Journal,*** 52: 11–36.

Hackman, J. R. 2003. Learning more by crossing levels: Evidence from airplanes, hospitals, and orchestras. ***Journal of Organizational Behavior,*** 24: 905–922.

Hackman, J. R., & Wageman, R. 1995. Total quality management: Empirical, conceptual, and practical issues. ***Administrative Science Quarterly,*** 40: 309–342.

Hannan, T. H., & McDowell, J. M. 1984. The determinants of technology adoption: The case of the banking firm. ***RAND Journal of Economics,*** 15: 328–335.

Hargadon, A. B., & Douglas, J. Y. 2001. When innovations meet institutions: Edison and the design of the electric light. ***Administrative Science Quarterly,*** 46: 476–501.

Hirsch, P. M. 1986. From ambushes to golden parachutes: Corporate takeovers as an instance of cultural framing and institutional integration. ***American Journal of Sociology,*** 91: 800–837.

Huber, G. P., & Power, D. 1985. Retrospective reports of strategic-level managers: Guidelines for increasing their accuracy. ***Strategic Management Journal,*** 6: 171–180.

Ingram, P., & Simons, T. 1995. Institutional and resource dependence determinants of responsiveness to work-family issues. ***Academy of Management Journal,*** 38: 1466–1482.

Jackson, S., & Dutton, J. E. 1988. Discerning threats and opportunities. ***Administrative Science Quarterly,*** 33: 370–387.

Jonsson, S. 2002. ***Making and breaking norms: Competitive patterns in the Swedish mutual fund industry.*** Doctoral dissertation, Institute for International Business, Stockholm School of Economics.

Juran, J. M. 1989. ***Juran on planning for quality.*** New York: Free Press.

Kahneman, D., & Tversky, D. 1979. Prospect theory: An analysis of decisions under risk. ***Econometrica,*** 47: 262–291.

Kamins, M. A., & Alpert, F. H. 2004. Corporate claims as innovator or market leader: Impact on overall attitude and quality perceptions and transfer to company brands. ***Corporate Reputation Review***, 7: 147–159.

Katz, M. L., & Shapiro, C. 1987. R&D rivalry with licensing or imitation. ***American Economic Review,*** 77: 402–420.

Kraatz, M. S., & Zajac, E. J. 1996. Exploring the limits of the New Institutionalism: The causes and consequences of illegitimate organizational change. ***American Sociological Review,*** 61: 812–836.

Leblebici, H., Salancik, G. R., Copay, A., & King, T. 1991. Institutional change and the transformation of interorganizational fields—An organizational history of the U.S. radio broadcasting industry. ***Administrative Science Quarterly,*** 36: 333–363.

Levin, D. Z., & Christmann, P. 2006. ***Institutionalism, learning, and patterns of decoupling: The case of total quality management.*** Working paper, Rutgers University, New Brunswick, NJ.

Lounsbury, M. 2001. Institutional sources of practice variation: Staffing college and university recycling programs. ***Administrative Science Quarterly,*** 46: 29–56.

Lounsbury, M. 2002. Institutional transformation and status mobility: The professionalization of the field of finance. ***Academy of Management Journal,*** 45: 255–266.

Lounsbury, M. 2007. A tale of two cities: Competing logics and practice variation in the professionalizing of mutual funds. ***Academy of Management Journal,*** 50: 289–307.

Magnussen, J. 1996. Efficiency measurement and the operationalization of hospital production. ***Health Services Research,*** 31: 21–47.

Manning, W. G., Duan, N., & Rogers, W. H. 1987. Monte Carlo evidence on the choice between sample selection and two-part models. ***Journal of Econometrics,*** 35: 59–82.

Meyer, J. W., & Rowan, B. 1977. Institutionalized organizations: Formal structure as myth and ceremony. ***American Sociological Review,*** 83: 340–363.

Meyer, M. W., Stephenson, W., & Webster, S. 1985. ***Limits to bureaucratic growth.*** Berlin: Walter de Gruyter.

Milgram, S. 1974. ***Obedience to authority: An experimental view.*** New York: Harper & Row.

Miller, C. C., Cardinal, L. B., & Glick, W. H. 1997. Retrospective reports in organizational research: A reexamination of recent evidence. ***Academy of Management Journal,*** 40: 189–204.

Ocasio, W. 1995. The enactment of economic diversity: A reconciliation of theories of failure-induced change and threat-rigidity. In L. L. Cummings & B. M. Staw (Eds.), ***Research in organizational behavior,*** vol. 17: 287–331. Greenwich, CT: JAI Press.

Ocasio, W. 1997. Towards an attention-based view of the firm. ***Strategic Management Journal,*** 18: 187–206.

Palmer, D., & Biggart, N. W. 2002. Organizational institutions. In J. A. C. Baum (Ed.), ***The Blackwell companion to organizations:*** 259–280. Oxford, U.K.: Blackwell.

Palmer, D. P., Jennings, D., & Zhou, Z. 1993. Politics and institutional change: Late adoption of the multidivisional form by large U.S. corporations. ***Administrative Science Quarterly,*** 38: 100–131.

Pangarkar, N., & Klein, S. 1998. Bandwagon pressures and interfirm alliances in the global pharmaceutical industry. ***Journal of International Marketing,*** 6(2): 54–73.

Perrow, C. 1986. ***Complex organizations: A critical essay*** (3rd ed.). New York: McGraw-Hill.

Rindova, V. R., Pollock, T. G., & Hayward, M. L. A. 2006. Celebrity firms: The social construction of market popularity. ***Academy of Management Review,*** 31: 50–71.

Rogers, E. 1978. Re-invention during the innovation process. In M. Radnor, I. Feller, & E. Rogers (Eds.), ***The diffusion of innovations: An assessment:*** 343–361. Evanston, IL: Center for the Interdisciplinary Study of Science and Technology.

Rogers, E. 1983. ***Diffusion of innovations*** (3rd ed.). New York: Free Press.

Rosa, J. A., Porac, J. F., Runser-Spanjol, J., & Saxon, M. S. 1999. Sociocognitive dynamics in a product market. ***Journal of Marketing,*** 63: 64–77.

Schneiberg, M., & Soule, S. A. 2005. Institutionalization as a contested, multilevel process: The case of rate regulation in American fire insurance. In G. Davis, D. McAdam, W. R. Scott, & M. Zald (Eds.), ***Social movements and organization theory:*** 122–160. Cambridge, U.K.: Cambridge University Press.

Scott, W. R. 1995. ***Institutions and organizations.*** Thousand Oaks, CA: Sage.

Scott, W. R., Ruef, M., Mendel, P., & Caronna, C. 2000. ***Institutional change and healthcare organizations: From professional dominance to managed care.*** Chicago: University of Chicago Press.

Sherer, P. D., & Lee, K. 2002. Institutional change in large law firms: A resource dependency and institutional perspective. ***Academy of Management Journal,*** 45: 102–119.

Singh, J. V., House, R. J., & Tucker, D. J. 1986. Organizational Change and Organizational Mortality. ***Administrative Science Quarterly,*** 31: 587–611.

Staw, B. M., & Epstein, L. 2000. What bandwagons bring: Effects of popular management techniques on corporate performance, reputation, and CEO pay. ***Administrative Science Quarterly,*** 45: 523–556.

Staw, B. M., Sandelands, L., & Dutton, J. E. 1981. Threat-rigidity cycles in organizational behavior: A multilevel analysis. ***Administrative Science Quarterly,*** 26: 501–524.

Strang, D., & Macy, M. W. 2001. In search of excellence: Fads, success stories, and adaptive emulation. ***American Journal of Sociology,*** 107: 147–182.

Strang, D., & Meyer, J. W. 1993. Institutional conditions for diffusion. ***Theory and Society,*** 22: 487–511.

Strang, D., & Soule, S. A. 1998. Diffusion in organizations and social movements: From hybrid corn to poison pills. In J. Hagan & K. S. Cook (Eds.), ***Annual review of sociology,*** vol. 24: 265–290. Palo Alto, CA: Annual Reviews.

Suddaby, R., & Greenwood, R. 2005. Rhetorical strategies of legitimacy. ***Administrative Science Quarterly,*** 50: 35–67.

Teece, D. 1980. The diffusion of an administrative innovation. ***Management Science,*** 26: 464–470.

Thomas, J., Clark, S., & Gioia, D. 1993. Strategic sensemaking and organizational performance: Linkages among scanning, interpretation, action, and outcomes. ***Academy of Management Journal,*** 36: 239–270.

Thomas, J., & McDaniel, R. 1990. Interpreting strategic issues: Effects of strategy and the information-processing structure of top management teams. ***Academy of Management Journal,*** 33: 286–306.

Thornton, P. H. 2004. ***Markets from culture: Institutional logics and organizational decisions in higher education publishing.*** Stanford, CA: Stanford University Press.

Thornton, P. H., & Ocasio, W. 1999. Institutional logics and the historical contingency of power in organizations: Executive succession in the higher education publishing industry, 1958–1990. ***American Journal of Sociology,*** 105: 801–843.

Tolbert, P. S., & Zucker, L. G. 1983. Institutional sources of change in the formal structure of organizations: The diffusion of civil service reform, 1880–1935. ***Administrative Science Quarterly,*** 28: 22–39.

Westphal, J., Gulati, R., & Shortell, S. 1997. Customiza-

tion or conformity? An institutional and network perspective on the content and consequences of TQM adoption. ***Administrative Science Quarterly,*** 42: 366–392.

Westphal, J. D., & Zajac, E. J. 1994. Substance and symbolism in CEOs' long-term incentive plans. ***Administrative Science Quarterly,*** 39: 367–390.

Westphal, J. D., & Zajac, E. J. 1998. The symbolic management of stockholders: Corporate governance reform and shareholder reactions. ***Administrative Science Quarterly,*** 43: 127–153.

Westphal, J. D., & Zajac, E. J. 2001. Decoupling policy from practice: The case of stock repurchase programs. ***Administrative Science Quarterly,*** 46: 202–228.

Whetten, D. A. 1988. Sources, responses, and effects of organizational decline. In K. Cameron, R. Sutton, & D. Whetten (Eds.), ***Readings in organizational decline:*** 151–174. Cambridge, MA: Ballinger.

Whitten, P. S., & Collins, B. 1997. The diffusion of telemedicine: Communicating an innovation. ***Science Communication,*** 19: 21–40.

Zbaracki, M. J. 1998. The rhetoric and reality of total quality management. ***Administrative Science Quarterly,*** 43: 602–636.

Zellner, A. 1962. An efficient method of estimating seemingly unrelated regressions and tests for aggregation bias. ***Journal of the American Statistical Association,*** 57: 348–368.

Zucker, L. G. 1977. The role of institutionalization in cultural persistence. ***American Sociological Review,*** 42: 726–743.

APPENDIX

Implementation Measures[a]

1. Overall Level of TQM Implementation

Respondents were asked: "Please indicate on the scale below the extent to which you believe that **at this point in time** CQI/TQM philosophy, principles, and methods have been implemented throughout your hospital. IN ANSWERING THIS QUESTION, PLEASE CONSIDER THE EXTENT TO WHICH PEOPLE IN YOUR HOSPITAL UNDERSTAND CQI/TQM IN TERMS THEIR DAILY WORK AND HAVE INTEGRATED IT INTO THEIR DAILY WORK."

The response scale for this measure ranged from 1, "not at all implemented," through the midpoint "about half the organization actively using CQI/TQM" on the midpoint, to 10, "100% of the organization actively using CQI/TQM."

2. Extent of Senior Management and Full Time Equivalent Staff TQM Trained

Respondents were asked: "Please provide your best estimates of numbers for the following items as of the end of calendar year 1992." They entered answers to the items below in each of two columns, one headed "Senior Managers (Associate Administrator Level and Up)"; the other headed "Total FTE Personnel."

Items were "a. Total number in the organization?" "b. Number participating in formal quality improvement training?" and "c. Number who have participated in quality improvement teams?"

3. Use of TQM Tools by Departments/Teams

Respondents were asked: "Please indicate below the extent to which your hospital uses the following quality assurance/improvement tools." Response options were "Don't use at all," "Used by a few Depts/Teams," "Used by many Depts/Teams," and "Don't know." Quality assurance/improvement tools werelisted as follows:

a) Pareto diagrams
b) Cause and effect 'fishbone' diagrams
c) Control charts
d) Run charts
e) Histograms
f) Scatter diagrams
g) Process flow charts
h) Affinity diagrams
i) Nominal group methods
j) Brainstorming

[a] Wording and in-sentence formats are verbatim.

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