## MADE TO FIT: HOW PRACTICES VARY AS THEY DIFFUSE

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We extend research on the diffusion of corporate practices by providing a framework for studying practice variation during diffusion processes. Specifically, we theorize about how population-level mechanisms of diffusion link with organization-level mechanisms of implementation that lead to the adaptation of practices. We also identify technical, cultural, and political elements of fit (or misfit) between diffusing practices and adopters and analyze how the process of attaining fit across these elements can trigger different patterns of adaptation.

An extensive body of research on the diffusion of practices has significantly enhanced our understanding of "how things—ideas and practices—get from here to there" (Katz, 1999: 145), largely by developing parsimonious models that draw on economic (e.g., Banerjee, 1992; Bikhchandani, Hirshleifer, & Welch, 1998; Lieberman & Asaba, 2006) and sociological mechanisms (e.g., Abrahamson, 1996; Strang & Macy, 2001; Strang & Meyer, 1993). In most of this research scholars have typically assumed a population-level perspective, emphasizing interorganizational conditions. For instance, economic models tend draw on informational arguments, pointing to a growing level of general information about the value of a practice in affecting diffusion decisions, whereas sociological models have tended to use more reputational arguments that relate to growing pressures for social conformity. Taken together, these bodies of literature offer a variety of rational, boundedly rational, and social explanations for the adoption and diffusion of practices

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across time and space (Greve, 1998; Terlaak & Gong, 2008).

Furthermore, most of this work has focused on the diffusion episode of the practice at the interorganization level—that is, the adoption decision. Given this interorganizational focus, prior models have usually made certain simplifying assumptions about the homogeneity of diffusing practices across time and space, treating them as essentially invariant rather than mutating. This approach, while parsimonious, has led to a relative neglect of theoretical attention to practice variation at the organization level (Cool, Dierickx, & Szulanski, 1997), with little attention to issues of adaptation and internal variety in diffusing practices as they wind their way through organizations (e.g., Mamman, 2002; O'Mahoney, 2007).

Thus, although existing models in diffusion theory have offered considerable insight into why practices are initially adopted by an organization, they typically do not delve deeply into what happens to such practices during and after adoption (Wolfe, 1994; Zeitz, Mittal, & McAulay, 1999). We see this as an important omission, since management practices often cannot be adopted by user organizations as "off-the-shelf" solutions. Instead, we suggest that diffusing practices are likely to evolve during the implementation process, requiring custom adaptation, domestication, and reconfiguration to

make them meaningful and suitable within specific organizational contexts (Robertson, Swan, & Newell, 1996; Strang & Kim, 2004).

To be sure, some scholars have paid attention to the adaptation of diffusing practices, where the transfer and diffusion of management practices among different local contexts consist of translation, coconstruction, and editing activities in different cultural and social contexts and may lead to divergence and variability in practices that are being adopted, enacted, and adapted (Johnson & Hagström, 2005; Sahlin-Andersson, 1996; Westphal, Gulati, & Shortell, 1997; Zilber, 2006). For instance, Zbaracki (1998) examined the relationship between the rhetoric and reality of total quality management (TQM) in use and showed how the practice was socially constructed and adapted inside different organizations. Similarly, Frenkel (2005) found that scientific management and human resources models imported from the United States into Israel were reinterpreted by the state, private employers, and a labor union to be more in line with prevalent macrocultural discourse.

While such mostly case-oriented studies (e.g., Czarniawska & Sevón, 2005; Johnson & Hagström, 2005; Morris & Lancaster, 2006; Saka, 2004) offer rich insights into how carriers and hosts coconstruct management practices diffusing into new settings, they remain quite disconnected from the more parsimonious models used in large-scale studies of innovation diffusion (Abrahamson, 2006). Indeed, the dearth of attempts to bridge interorganizational mechanisms of diffusion with intraorganizational implementation and adaptation is striking, leading us to propose that an enhanced understanding of the diffusion of corporate practices can be achieved by systematically analyzing how and why practices are adapted by organizations over the course of the diffusion process. More specifically, we offer a theoretical framework for analyzing how practices vary as they diffuse and are implemented. We begin by proposing two fundamental dimensions to explain variation in the ways in which diffusing practices are implemented: fidelity and extensiveness.

Furthermore, we argue that the specific patterns of practice adaptation will depend on the fit between the diffusing practice and the adopting organization. Drawing on Nadler and Tushman's (1980) work, we define fit of diffusing prac-

tices as the degree to which the characteristics of a practice are consistent with the (perceived) needs, objectives, and structure of an adopting organization. While this notion of fit is generally seen as self-evident, the way in which different types of fit affect the adoption and adaptation process is much less well understood. We therefore suggest that the diffusion process across time and across adopters should be assessed as an issue of dynamic fit between practice and adopter and that this fit is influenced by technical, cultural, and political factors. We then posit that different forms of fit and misfit will trigger different patterns of practice adaptation and that this understanding will allow us to predict both the timing (i.e., early versus late) and the form of practice adaptation by an organization. By developing a parsimonious framework of the adaptation of diffusing practices that places special emphasis on the interaction between characteristics of the diffusing practice and those of the adopter, we aspire to unify and reconcile divergent strands of the literature addressing practice diffusion.

Indeed, we believe our model carries substantive implications for those interested in how practices spread. Prior research has to a large extent focused not on variation but on diffusion speed, including identifying and measuring rates of diffusion and the timing of adoption that is, early versus late adopters (e.g., Rogers, 1995). The motivation for this emphasis was that policy makers and economists wanted to understand how "progressive" innovations could spread faster in an economy and, implicitly, how "laggards" could be convinced, thus accelerating the diffusion process (Abrahamson, 1991; Rogers & Shoemaker, 1971). The underlying model of the practice, however, is one of relatively uniform and invariant practices.

We contend, however, that developing a greater understanding as to when and how practices change as they diffuse is highly relevant for several reasons. Two main motivations relevant to policy makers are detecting and exploiting variation, on the one hand, and suppressing variation, on the other hand. Regarding the first motivation, improving the outcomes of a diffusion process will frequently require knowing where and when enhanced versions of a practice are likely to appear. In this way the insights of experimentation can be detected and disseminated to other potential adopters. Alter-

natively, policy makers may be interested in assuring consistent and faithful implementation of a practice, so knowing where variation is likely to emerge is therefore useful in aiding attempts to suppress deviation from a preferred model. Accordingly, developing a theoretical framework consisting of technical, cultural, and political parameters that provides an enhanced understanding of variation in the diffusion of practices, as we endeavor to provide in this study, can assist in localized and targeted searches for innovative practices and can also allow for more timely interventions, including the possible modification of these parameters from policy makers eager to sponsor particular versions of practices deemed more desirable for business and society.

We proceed by discussing the theoretical mechanisms proposed in previous approaches to diffusion, and we then introduce our notion of adaptation (where diffusion meets implementation) and its dimensions. Next, we introduce the concept of fit as a crucial intermediate mechanism for understanding diffusion processes and show how various degrees of fit across multiple dimensions result in different degrees of likely adaptation by recipient organizations during various stages of the diffusion process. We conclude by discussing the implications of our approach for both the study of practice adaptation and diffusion.

#### PRIOR MODELS OF PRACTICE ADOPTION

The literature on the diffusion of practices among corporations—identified as one of the key mechanisms in the study of organizations (e.g., Davis & Marquis, 2005)—is currently characterized by two sets of explanations regarding

the processes leading to adoption. The first set of explanations has its roots in the economic literature and builds on the rational actor model. It presents arguably the most dominant perspective in the diffusion of innovation literature (Rogers, 1995; Sturdy, 2004), conceiving of adopters as rational actors that scan their environment and make efficient choices. In keeping with Strang and Macy's (2001) terminology, we refer to these explanations as rational accounts.

The second set of explanations is somewhat more eclectic but overall more closely associated with a sociological perspective and a focus on the social embeddedness of actors. These explanations have been variously called "fads and fashion perspectives" (Abrahamson, 1991), "contagion accounts" (Strang & Macy, 2001), or an "institutional perspective" (Jonsson, 2002; Sturdy, 2004). However, none of these labels seems ideal, since each tends to exclude other significant aspects of a more sociological perspective. To recognize this eclecticism, and at the same time juxtapose it with more economically based rational accounts, we refer to this second cluster of explanations as social accounts. We discuss each in more detail below.

#### Rational Accounts

Emerging from the field of economics, rational accounts have an immediate intuitive appeal, since they focus on the presumed economic benefits that result from the adoption of a practice. In fact, the connection between cost effectiveness and the likelihood of diffusion is one of the most widely reported findings in the innovation diffusion literature (Rogers, 1995; Strang & Macy, 2001).

Rational accounts tend to come in two versions. The first, focusing on evolutionary processes, suggests that selection forces weed out the weaker performers who fail to adopt an efficient practice (Katz & Shapiro, 1987; Mansfield, 1961). In the second, optimizing version, effective innovations are adopted by rational decision makers who make the choices that lead to the diffusion of beneficent innovations (Chandler, 1962; Teece, 1980; Williamson, 1979). In both forms a key mechanism explaining increasing levels of adoption pertains to information cascades (e.g., Banerjee, 1992; Bikhchandani et al., 1992, 1998), where adoption processes build momentum as firms use observed behaviors of

<sup>&</sup>lt;sup>1</sup> In conceptualizing adaptation processes, one can conceive of four scenarios of adaptation: (1) little or no change in practice or in organization, leading to essentially "as is" adoption; (2) change in practice but not in organization, leading to adaptation of the practice; (3) change in organization but not in practice, leading to adaptation of the organization; and (4) change in both organization and practice, leading to coevolution or mutual adaptation. Although there will always be some degree of mutual adaptation (Van de Ven, 1986), our intent here is to examine how practices vary as they diffuse. Thus, we focus on the adaptation of practices during the diffusion process, rather than on processes of organizational change (e.g., Greve & Taylor, 2000; Leonard-Barton, 1988).

early adopters, presumably with more accurate information about the practice, to update their own value expectations regarding a diffusing practice (Terlaak & Gong, 2008). In such models imitation follows from a heuristic of social proof-that is, firms infer from the actions of other firms what constitutes appropriate actions to minimize search costs and to avoid the costs of experimentation (Rao, Greve, & Davis, 2001). With greater diffusion more information about the utility of a practice reduces its associated uncertainty and, thus, the risk of adoption, speeding up the diffusion process. However, some rational models also acknowledge that information cascades may lead to herding behavior, which occurs "when it is optimal for an individual, having observed the actions of those ahead of him, to follow the behavior of the preceding individual without regard to his own information" (Bikhchandani et al., 1992: 994). Such information cascades may form particularly fast when early adopters are highstatus individuals or are perceived to have special expertise, leading other firms to imitate them, even if their private information indicates that adoption is not beneficial (Banerjee, 1992).

#### Social Accounts

Whereas rational accounts tend to focus on a growing level of general information about the value of a diffusing innovation, social accounts tend to emphasize growing levels of pressure toward social conformity. Specifically, social accounts tend to assume that organizations frequently imitate other organizations in order to appear legitimate and that with increasing institutionalization the adoption of practices is therefore often driven by a desire to appear in conformance with norms (DiMaggio & Powell, 1983; Scott, 1995; Sturdy, 2004; Tolbert & Zucker, 1996). By critiquing the view of adoption as the result of rational choices, these accounts point to the role of group pressures and emphasize the notion that diffusing practices will frequently be inefficient or even harmful (Abrahamson, 1991; Strang & Macy, 2001).

However, efficiency does often enter into social accounts in its functional role of increasing the legitimacy of an organization. There are essentially weak and strong forms of this argument. In the weak form, legitimacy arguments

allow for the possibility that initial adoption is driven by economic efficiency rationales. However, once a critical mass is reached, efficiency concerns become more and more irrelevant because the adoption process is increasingly driven by bandwagon pressures and legitimacy concerns—that is, processes that are largely decoupled from a practice's technical efficiency (Tolbert & Zucker, 1983). In other words, once a threshold is crossed, efficiency concerns are replaced by social pressures from outside stakeholders, leading organizations to adopt practices with less consideration of the appropriateness of the practice for the particular circumstances at hand.

In the strong form, legitimacy arguments hold that the diffusing practice is at no time technically efficient—it never employs the optimum means for achieving its stated goal, or it may even be completely ineffective. However, because of other factors, such as cultural compatibility (Soule, 1999) or the normative expectations of outside stakeholders (Abrahamson, 1991; DiMaggio & Powell, 1983), organizations may still find it advisable to adopt the practice to increase or maintain their standing in the eyes of their constituency. As a result, these organizations tend to imitate the models promoted by fashion setters or those used by their peers, particularly highly visible and successful models.2

While providing different rationales for adoption of practices, both rational and social accounts of diffusion typically assume a population-level perspective, emphasizing interorganizational conditions—either a growing level of general information about a practice from rational early adopters that can be used to infer its value under uncertainty (e.g., economists' information cascades) or growing pressures for social conformity once enough actors adopt a certain practice (e.g., sociologists' institutionalization). However, a key difference concerns the durability of behaviors. In rational accounts information cascades can be fragile, and new in-

<sup>&</sup>lt;sup>2</sup> The assumption of adoption being observable is more plausible in established, structured industries than it is in emerging industries, where firms may not be as aware of other players because of a lack of shared industry models and intermediaries (Terlaak & Gong, 2008).

<sup>&</sup>lt;sup>3</sup> We are grateful to former associate editor Pamela Tolbert for providing this insight.

formation may lead to sudden reversals (Bikhchandani et al., 1992; Lieberman & Asaba, 2006), as was seen in the rise and fall of dotcoms during the Internet bubble. In contrast, social accounts suggest that once a behavior is institutionalized, the social order that emerges is considerably more durable. Although adopters have more latitude in adapting the practice during the preinstitutional stage, increasing institutionalization and conformity pressures limit that latitude and lead over time to considerably less practice variation (Tolbert & Zucker, 1996).

Rational and social accounts of practice diffusion have unquestionably contributed to our understanding of the diffusion process, and prior studies tend to cluster on either side of these two alternative perspectives; rational accounts typically emphasize a technical imperative for adoption, and social accounts emphasize a cultural imperative for adoption. In line with Hinings and Tolbert (2008), we do not see these two accounts as dichotomous but, rather, as poles on a continuum, where both can explain diffusion under different conditions.

#### CONSIDERING PRACTICE ADAPTATION

As we have noted, the classic diffusion model is based on invariant practices, where passive "accepters" either accept or reject the practice (Rogers, 1995: 364). However, a closer consideration of the issue of implementation of the practice in an organization suggests that few practices, if any, come out of the diffusion process unchanged (March, 1981; Strang & Soule, 1998). We use the term adaptation<sup>4</sup> to refer to the process by which an adopter strives to create a better fit between an external practice and the adopter's particular needs to increase its "zone of acceptance" during implementation (Lewis & Seibold, 1993; Radnor, Feller, & Rogers, 1978). This adaptation process may involve change in how a practice is "framed" over time (Fiss & Zajac, 2006; Green, 2004; Hirsch 1986), or it may involve change in the actual implementation of the practice, as when different versions of the same practice are adopted at different points in the diffusion process (Kennedy & Fiss, 2009; Lewis & Seibold, 1993; Westphal et al., 1997). In a related vein, researchers in the tradition of Scandinavian institutionalism (e.g., Czarniawska & Joerges, 1996; Sahlin-Andersson, 1996), actor-network theory (e.g., Callon, 1986; Latour, 1986), and social technology transfer (Boyer, Charron, & Jürgens, 1998; Djelic, 1998; Guillén, 1994; Zeitlin & Herrigel, 2000) have used the terms translation (Serres, 1982), editing (Sahlin-Andersson, 1996), transposition (Boxenbaum & Battilana, 2005), and creolization (Sahlin-Andersson & Engwall, 2002) to refer to situations where new ideas and practices are adapted to local contexts as they travel during the diffusion process.

As an essential aspect of the implementation process, adaptation is more likely to be the rule than the exception (Whitten & Collins, 1997), and it presents a particularly intriguing issue for the study of diffusion processes in organizational settings. However, given the lack of a conceptual framework for understanding patterns of practice variation across the diffusion process, adaptation of practices remains a neglected phenomenon. As noted earlier, our position is that synthesizing insights from studies on population-level diffusion with an original discussion of the organization-level implementation of diffusing practices can lead to greater understanding of adaptation processes.

To integrate prior models of practice adoption with work on practice adaptation and to provide a framework for understanding practice adaptation across the diffusion process, it is necessary to generate the relevant dimensions of practice adaptation. To accomplish this we draw on the literature on how knowledge is transmitted and retrieved, which is consistent with the most basic notion of diffusion as the transmission of ideas (Katz, 1999). Following Yuan et al. (2005), Palazzolo, Serb, She, Su, and Contractor (2006), and Yuan, Fulk, and Monge (2007), we argue that adaptation will involve two key dimensions: fidelity and extensiveness.

The first dimension, which we label fidelity, relates to whether the adapted practice resembles or deviates in kind from the features of the previous version of the practice as it is transmit-

<sup>&</sup>lt;sup>4</sup> The diffusion of innovation literature has at times used the term re-invention to refer to the same process of adapting a diffusing innovation (Larsen & Argawalla-Rogers, 1977; Rice & Rogers, 1980; Rogers, 1995). Other terms include reorientation and variation (Normann, 1971), corruption (Lozeau, Langley, & Denis, 2002), levels of transfer (Lillrank, 1995), alteration and optimization (Damanpour & Evan, 1984), reconfiguration (Henderson & Clark, 1990; Meyer & Goes, 1988), emulation with innovation (Westney, 1987), modification (Mamman, 2002), and hybridization (Botti, 1997).

ted. While Yuan et al. (2007) have used the term accuracy in this regard, we prefer fidelity because it does not make assumptions regarding the normative nature of the prototypical practice. Fidelity is related to the scope and meaning of the practice that is being implemented and adapted in terms of how "true" or "distant" this version of the practice is compared to the previous adapted versions of the practice. Thus, if late adopters adapt a practice (more or less), it is relative to how much the earlier adopters adapted the practice (more or less) rather than relative to some original prototypical version.

The notion of a prototype is nonetheless useful to map the terrain of the possible variations in an evolving practice over time. Prototypical practices may therefore be used to benchmark the fidelity of adaptation processes relative to the original prototype, as well as relative to subsequent versions (Lewis & Seibold, 1993). For instance, in the case of TQM, high-fidelity adaptation would include ensuring that a product or service had higher quality and lower expenses associated with it, whereas low-fidelity adaptation would emphasize one (but not the other) improvement.

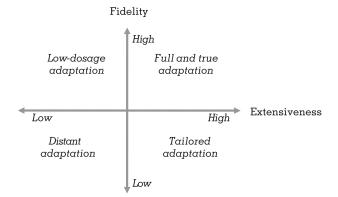
The second dimension, extensiveness, assesses whether the degree of practice implementation is greater or lesser than that of the previous version of the practice. This notion builds on recent research that suggests adopting organizations will frequently implement either less extensive versions (e.g., Westphal & Zajac, 2001) or more extensive versions (e.g., Hays, 1996; Mooney & Lee, 1999) of a diffusing practice. Extensiveness in adaptation thus indicates how far the adapted practice presents farreaching or restricted efforts toward implementation (Mamman, 2007). Therefore, the concept of extensiveness about the "dosage" of the prac-

tice being implemented—low or high—is closer to the notion of scale of implementation. For instance, e-business implementation may vary from being selectively implemented to being implemented across the entire span of the organization's structure and business processes—from the procurement department to the field sales force to supply chain coordination (Wu et al., 2003).

In short, practices are high fidelity but not extensive when they are truer to the previous version—but not comprehensively implemented. Practices are extensive but low fidelity if comprehensively implemented—but not true to the previous version.

Illustrating our arguments, Figure 1 shows the two dimensions of practice variability, as well as the patterns of adaptation associated with them. The top right corner is characterized by high levels of both fidelity and extensiveness. We call this pattern "full and true" adaptation to indicate that the adapted practice is being implemented with greater fidelity to its prior version and also in a far-reaching manner. In the top left corner we still find high levels of fidelity to the prior practice, but the extensiveness of implementation is lower. We call this pattern "low-dosage" adaptation to indicate that the adaptation is more aligned with the prior version of the practice but presents a more timid effort at implementation in terms of its scope. In the bottom right corner we find higher levels of extensiveness but lower levels of fidelity. We call this pattern "tailored" adaptation, indicating that the adopting organization is using considerable resources to implement an extensive version of

# FIGURE 1 Dimensions of Practice Variability and Adaptation



<sup>&</sup>lt;sup>5</sup> At the high-fidelity end of the continuum, an extreme case might be the adoption of policies verbatim, including typographical errors, as documented by Walker (1969). At the other end of the continuum, adaptations may eventually reach a point where they bear little resemblance to the original practice. Here the notion of prototypical features can again help in introducing threshold values to allow the researcher to determine whether it may be more useful to speak of a different rather than an adapted practice.

<sup>&</sup>lt;sup>6</sup> A term related to extensiveness is adoption intensity (Wu, Mahajan, & Balasubramanian, 2003), also referring to the degree of implementation of a practice inside an organization.

the practice while also modifying the practice substantially, thus implementing a version that is significantly different from its prior version. Finally, the bottom left corner is characterized by low levels of both fidelity and extensiveness. We call this pattern "distant" adaptation to indicate that adaptation here deviates from the prior version, as well as being smaller in scope.

To further illustrate these dimensions of practice adaptation, consider the adaptation of TQM, which has been the focus of several recent studies (e.g., David & Strang, 2006; Green, Li, & Nohria, 2009; Kennedy & Fiss, 2009; Westphal et al., 1997; Zbaracki, 1998). The characteristics of TQM include three principles: (1) customer focus, (2) continuous improvement, and (3) teamwork (Dean & Bowen, 1994). Prototypical implementation of TQM thus includes practices based on these principles, such as (1) customer surveys and focus groups; (2) flow charts, Pareto analyses, and statistical process control; and (3) teambuilding methods, such as role clarification and group feedback. Variation in the way TQM is adapted in an organization can then be assessed based on the fidelity and extent of TQM implementation relative to this prototypical form and prior versions. For instance, lowfidelity adaptation might involve deviation from the core principles by appropriating the practice for political interests (e.g., Zbaracki, 1998), whereas low-extensiveness adaptation might involve implementation of TQM practices but in less extensive forms (e.g. Westphal et al., 1997).

In sum, the two dimensions of practice fidelity and extensiveness provide the foundation for a framework that allows us to connect the rich work on practice adaptation to overall models of diffusion patterns. To the extent that adaptation signifies differences, fidelity and extensiveness capture change in kind versus change in degree, respectively. Before moving to make predictions regarding when we will observe different patterns of adaptation, we first need to consider the reasons for adapting diffusing practices. It is to these issues of fit between the practice and the adopting organization that we now turn.

### ADAPTATION AS A RESPONSE TO A LACK OF FIT

A key reason why organizations adapt diffusing practices is that the characteristics of the practice do not fit with the adopter organiza-

tion's characteristics. However, prior research has mainly focused on demand-side factors, such as the characteristics of adopters, and has placed far less emphasis on supply-side factors, such as the characteristics of the diffusing practices. We believe that such an approach can only partially succeed; both demand-side and supply-side characteristics need to be considered (Attewell, 1992; Brown, 1981; Cool et αl., 1997). Furthermore, rather than considering either demand-side or supply-side factors in isolation, we seek to extend the existing literature by theorizing—at the intersection of supply and demand—about how the characteristics of diffusing practices interact with the characteristics of adopters. This allows us to develop further the concept of compatibility or "goodness of fit" between the attributes of a diffusing item and the attributes of adopters (Katz, 1999).

Fortunately, the strategy literature and organization literature have extensively considered the concept of organizational fit (e.g., Drazin & Van de Ven, 1985; Venkatraman, 1989). We follow Nadler and Tushman's definition of fit as "the degree to which the needs, demands, goals, objectives, and/or structures of one component are consistent with the needs, demands, goals, objectives, and/or structures of another component" (1980: 45). While traditional discussions of fit have tended to emphasize the static matching of organizations to a particular context variable, more recent advances have accentuated how fit can also be conceptualized dynamically and multidimensionally (Zajac et al., 2000). It is this notion of dynamic, multidimensional fit that we use here.

So far we have argued that both demand-side and supply-side attributes matter in practice adaptation. But how do our arguments speak to the dynamic nature of the diffusion process—particularly to differences between early and

 $<sup>^7</sup>$  Fit, of course, is a continuous rather than binary variable and, thus, will always be measured in degrees. Furthermore, we are not assuming that adaptation of a practice will always be triggered by a lack of fit or misfit between a practice and an organization. Adaptation may also occur within an organization even when it is not efficient to adapt, either because of social pressures as organizations observe others' behaviors or because of coercive pressure imposed by powerful entities. Furthermore, fit may exist even under inaction—a special case that is not our focus here (Zajac, Kraatz, & Bresser, 2000). Thus, adaptation (or the lack thereof) may be characterized by both Type I and Type II errors.

later adopters? Who would be more likely to experience misfit during the diffusion process?

Rational accounts point to the importance of uncertainty and associated mechanisms of learning (e.g., Banerjee, 1992; Bikhchandani et al., 1998). Here early adopters face greater uncertainty regarding the utility and characteristics of the practice. Accordingly, misfit is more likely to occur among early adopters, when less is known about the diffusing practice. Rational arguments suggest that early adopters are more likely to find misfit during implementation and to adapt practices, thus leading to more adaptation early on when less is known about the practice. However, over time the uncertainty regarding the utility and characteristics of the practice decreases as late adopters are able to infer the value of the practice from the accumulated stock of early adopters' prior decisions (Terlaak & Gong, 2008). Accordingly, later adopters may be more able to avoid practices with a low fit for their needs. This also implies that, in rational accounts, the technical characteristics of individual adopters (such as size) may become better predictors of adoption later in the process, whereas social characteristics (such as susceptibility to conformity pressures) may become less useful predictors.

In contrast, social accounts emphasize conformity pressures and a desire to look legitimate to outside constituents (e.g., Abrahamson, 1991; DiMaggio & Powell, 1983; Tolbert & Zucker, 1983). In these accounts early adopters have little incentive to adopt practices that do not fit since they do not perceive conformity pressures. However, as conformity pressures mount, later adopters will be forced to adopt regardless of their needs, leading to a greater likelihood of misfit among later adopters. In opposition to rational accounts, social accounts thus also suggest that the technical characteristics of actors become less reliable predictors of adoption later in the process once an innovation gains legitimacy, whereas social characteristics become better predictors.

Both rational and social accounts of diffusion therefore suggest variation between early and late adopters due to the interaction between population-level and organization-level phenomena. However, because of the respective mechanisms invoked, both accounts have different implications for when misfits of adopted practices are more likely to occur. Furthermore,

there are also integrated models that draw on both rational and social accounts in explaining diffusion. Probably the most important model that integrates both rational and social arguments is that of Tolbert and Zucker (1983), who argued that early adopters are mainly concerned with the utility of the practice whereas later adopters are primarily concerned with conformity pressures in a rational to ceremonial shift. However, David and Strang (2006), in their study of TQM, suggested a more complex institutional trajectory, with the practice swinging back toward its technical foundations in the mid and late 1990s and with its larger institutional trajectory moving from rational to ceremonial to rational again. More recently, Kennedy and Fiss (2009) offered an integrated diffusion model that suggests that both economic and social motivations may, in fact, work in parallel and may both be present among early and later adopters. Note that both integrated models, by combining rational and social arguments, suggest that misfit will occur among both early and later adopters, albeit for different reasons. It would therefore appear that at least the potential for misfit is given across the whole life cycle of the diffusion process.

### FORMS OF FIT AND PATTERNS OF PRACTICE ADAPTATION

Adaptation in response to a lack of fit presents a key issue in the diffusion literature, yet the specific relationship between fit and adaptation remains largely unexamined. Here we seek to extend the existing literature by theorizing about how diffusing practices interact with the characteristics of adopters, resulting in different adaptation patterns. To conceptualize fit we draw on Oliver's (1992) categorization of factors influencing organizational practices, and we identify three forms of fit that affect adaptation processes: (1) technical fit, (2) cultural fit, and (3) political fit (see also Sturdy, 2004, for different perspectives on the adoption of management practices). Specifically, we argue that technical, cultural, and political incompatibilities trigger different mechanisms and patterns of adaptation on the part of adopting organizations. Indeed, innovative practices tend to vary in the forms of misfit that they typically engender, therefore affecting diffusion through correspondingly different mechanisms for communicating interorganizational variation or conformity. In conceptualizing the three forms of fit, we adopt a boundedly rational perspective (Eisenhardt & Zbaracki, 1992), where adopters are "cognitive misers" rather than "cognitive dopes" (Rao et al., 2001), where organizations rely on "cognitive shortcuts" (Tversky & Kahneman, 1974) in making adaptation decisions, and where adaptation is both a rational and social process.8 Accordingly, for each of the three forms of fit, a poor fit as experienced by an adopter during ongoing assessments and feedbacks (either in the face of various crises—e.g., employee resistance and dissatisfaction levels—or with evidence of mounting performance problems) will make implementation of an unmodified practice more costly and, thus, likely to result in either adaptation of the diffusing practice or its eventual abandonment. Table 1 provides an overview of supply-side practice characteristics and demand-side characteristics of adopters and their contexts.

#### Technical Fit

By technical fit we mean the degree to which the characteristics of a practice are compatible with technologies already in use by potential adopters. On the supply side, practice-level factors relate to the diffusing practice's technological foundation and characteristics (Rogers, 1995; Tornatzky & Klein, 1982). On the demandside, organization-level factors affecting technical fit include the recipient organization's innovativeness (Damanpour, 1991), technological base (Adler & Shenhar, 1990), and absorptive capacity—that is, "the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends"

(Cohen & Levinthal, 1990: 128). For instance, regarding the diffusion of the Six Sigma methodology in the 1990s, one reason GE was far more successful than Motorola in implementing this practice was that it had already put in place a series of its own technologies in quality management and human performance management quite compatible with Six Sigma. GE was thus better positioned than Motorola to generate value from the stringent processes required by the Six Sigma methodology (Mol & Birkinshaw, 2008), even though Motorola, not GE, had invented Six Sigma. Similarly, as the imprinting literature has shown, the distinctive stamp of an organization's founding environment continues to impact subsequent managerial decisions and the adoption of organizational practices that are seen as congruent with inherited organizational arrangements (Marquis, 2003; Stinchcombe, 1965).

Demand-side factors may further include intraorganization-level factors, such as technological background and experience of organizational members and executive demographics (e.g., Palmer, Jennings, & Zhou, 1993; Wejnert, 2002; Zeitz et al., 1999). Finally, fit may also be affected by supraorganization-level factors, including industry-level phenomena, such as technological standards and regulatory regimes (Farrell & Saloner, 1985) and maturity levels (e.g., Behrman & Wallender, 1976), as well as societal-level phenomena, such as the degree of technological advancement, infrastructure, and educational, financial, and regulatory institutions (Wejnert, 2002).

#### Adaptation and Technical Fit

As we have argued, technical fit depends on the alignment between practice characteristics and organizational characteristics. In the case of a low degree of fit, organizations will aim to reduce the costs of implementation, regardless of the original reasons for adoption. Reducing technical misfit thus involves the assimilation of practices into existing organizational systems.

We see the availability of knowledge about a diffusing practice as a key mechanism influencing adaptation efforts. Assuming that decision makers in organizational settings are generally risk averse and that reliable information on the effectiveness of a new practice is scarce, the

<sup>&</sup>lt;sup>8</sup> In α preadoption setting firms make their choice under uncertainty, based on some expected practice value that is void of any implementation experience. However, postadoption, firms may have higher inferential accuracy based on information on the specificities of practice value that they gather through implementation of the practice and/or through vicarious learning from the postadoption behaviors of other referent firms (Rao et al., 2001; Terlaak & Gong, 2008). They may then adapt or even abandon a practice (we are grateful to an anonymous *AMR* reviewer for this insight). However, uncertainty may persist even postadoption, and adaptation—warranted or not—may simply be an imitative response to external social pressures as opposed to a deliberate or purposeful activity.

TABLE 1
Supply- and Demand-Side Characteristics by Level of Analysis

	Level of Analysis			
	Supply Side	Demand Side		
Fit Characteristics	Practice	Intraorganizational	Organizational	Supraorganizational
Technical characteristics	Technological foundation and characteristics embodied by the practice	Individual's background and experience, education level, technical orientation	Organizational absorptive capacity, technological base, innovativeness, level of sophistication of technologies and systems already in use	Technological standards and regulatory regimes, professional bodies, degree of technological advancement, infrastructure, financial and regulatory institutions, educational systems
Cultural characteristics	Cultural characteristics such as cultural values and meaning structures embodied by the practice	Beliefs, values, and preferences about the appropriateness of the work practice	Organizational culture—innovative or closed, values and beliefs	Norms, beliefs, and values of industry associations and regional clusters; macrocultural discourse; cultural icons; dominant institutional logic
Political characteristics	Normative claims, political "loadings," controversial associations embodied by the practice	Interests, relative power, and agendas of organizational members	Formal and informal power structures and rules within an organization, resource dependencies, differential positions in social networks, dominant coalitions	Political settlements; union agreements; government regulations; types and character of political systems; labor market policies; legal systems; degree of political freedom; national policies such as distributing concessions and repressions to various political, corporate, and social groups

implementation of a new practice or technology will frequently proceed cautiously and incrementally (Mooney & Lee, 1999; Rice & Rogers, 1980). Particularly, if the uncertainty surrounding the practice is high and adopters are unable to reduce misfit and increase the practice's zone of acceptance, early adopters are likely to avoid experimentation and adopt truer or high-fidelity versions of the new practice. However, adaptation efforts can intensify as the practice established by early adopters becomes more elaborate in its specification (Glick & Hays, 1991; Hays, 1996), with more details and more versions, leading to greater variety and lower fidelity. This view suggests a process that is the reverse of conventional accounts of institutionalization, with practices becoming increasingly adapted and customized during the diffusion process (David & Strang, 2006).

For instance, Sine, Haveman, and Tolbert (2005), in their analysis of the independent power sector in the United States, showed that organizations over time adopted newer and riskier technologies rather than more established technologies with the development of various types of institutions. Similarly, early adopters used just-in-time (JIT) production systems in a stricter sense—as a way to control the pace of production (going from a "push" to a "pull" system, thus allowing a drastic reduction in inventory). In contrast, later adopters increasingly modified JIT and increased its scope, so it eventually developed into "big JIT"— "a broad, holistic, strategic approach for eliminating waste

and improving customer service" (Klassen, 2000: 97).

In sum, as uncertainty decreases and knowledge about the practice increases, late adopters are exposed to a wider range of possibilities regarding the implementation of a practice and—with more inferential accuracy—are less restricted in their adaptation efforts. Accordingly, later adopters are more likely to develop increasingly divergent lower-fidelity versions of the practice in order to reduce misfit. We restate the above arguments in the following proposition.

Proposition 1: When adopters experience low technical fit between the practice and the organization, early adopters will implement higher-fidelity versions whereas later adopters will implement lower-fidelity versions of the practice.

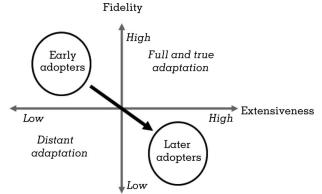
At the same time, mechanisms of limited knowledge and uncertainty reduction also influence the effect of technical misfit on practice extensiveness. Since new practices are frequently not well understood at the beginning of the diffusion process, early adopters are restricted in their ability to reduce misfit and, thus, are likely to implement not only truer but also less extensive versions of a given practice. Later in the diffusion process, when uncertainty diminishes and there is greater knowledge about the effectiveness of the practice, we expect implementation of more extensive versions. The greater availability of information about the practice over time therfore allows later adopters to implement more extensive versions of the new practice (Glick & Hays, 1991; Hays, 1996; Mooney & Lee, 1999). The diffusion mechanism suggested by this process, hence, is one of uncertainty reduction, where early adopters have limited knowledge about the innovation and engage in rather limited implementation of a relatively small set of basic features, whereas later adopters with more information are able to implement increasingly extensive versions.

Proposition 2: When adopters experience low technical fit between the practice and the organization, early adopters will implement less extensive versions whereas later adopters

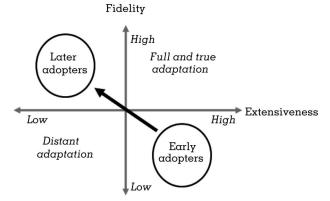
will implement more extensive versions of the practice.

In combination, a lack of technical fit suggests a pattern of low-dosage adaptation among early adopters and a pattern of tailored adaptation among later adopters. Figure 2a shows how this

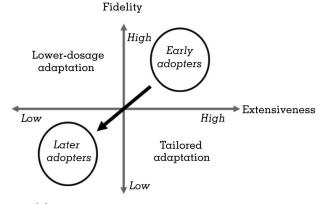
### FIGURE 2 Patterns of Practice Adaptation



(a) Adaptation in response to a lack of technical fit



(b) Adaptation in response to a lack of cultural fit



(c) Adaptation in response to a lack of political fit

shift from early to later adopters maps onto the dimensions of adaptation described earlier.

#### Cultural Fit

By cultural fit we mean the degree to which the characteristics of a diffusing practice are compatible with the cultural values, beliefs, and practices of potential adopters. New practices and ideas do not diffuse into a cultural void but, rather, into a preexisting cultural universe that delineates the roles and responsibilities of its respective actors and the boundaries of appropriate behavior. The concept of cultural fit has informed anthropologically oriented research since the early twentieth century (e.g., Boas, 1925; Lowie, 1914; Spier, 1921), and it was also part of the early program regarding the diffusion of innovations (Katz, Hamilton, & Levin, 1963; Rogers, 1995). However, cultural fit generally has played a more peripheral role in studies of the diffusion of organizational practices (Kedia & Bhagat, 1988: 559). Indeed, the relative inattention to the idea of cultural fit led Lopes (1999) to call for more attention to the symbolic behavior and repertoire of adopters.9

On the supply side, practice-level factors refer to the cultural characteristics of the diffusing practice or "cultural object"—specifically, to the meaning structures and cultural values the practice embodies (Griswold, 1987). On the demand side, organization-level factors include the values and beliefs prevalent in adopter organizations. Examples here include corporate cultures—values, beliefs, communication styles, mission, and philosophical orientation of the organizations—that impact receptivity to a practice, such as the acceptability of same-sex domestic partner benefits (Briscoe & Safford, 2008; Creed, Scully, & Austin, 2002). At the intraorganization level relevant factors refer to individual traits, such as beliefs, values, and preferences about the appropriateness of the work practice. Supraorganization-level factors include industry-level phenomena, such as the industry's dominant logic (Prahalad & Bettis, 1986) and the norms, beliefs, and values of industry associations and regional clusters, as well as societylevel phenomena, such as whether cultures are

individualistic or egalitarian (Bhagat, Kedia, Harveston, & Triandis, 2002) and macrocultural discourse reflected by best practice awards and certifications and by celebrity speakers and CEOs—cultural icons like Jack Welch or Steve Jobs (Zeitz et al., 1999).

For instance, Hunter (2000) found significant differences in the organizational implementation of such innovative work practices as the "self-managed team," based both on the industry sector they operated in and whether they were manufacturing or service establishments. Similarly, since quality circles (QCs) were seen as an imported Japanese practice at odds with the U.S. cultural value of individualism and American corporate culture—for instance, the small role of foremen and cohesive workgroups, adversarial management labor relations, and the hegemonic position of top managementthere was little coherent attempt within organizations to promote QCs. Instead, American managers and consultants developed a simplified, context-independent notion of the QC that fit American notions of "participatory management" (Strang & Kim, 2004; Zeitz et al., 1999).

#### Adaptation and Cultural Fit

In contrast to technical misfit, cultural misfit suggests a somewhat different pattern of adaptation. One strain of research on cultural transfer has emphasized the selection process, employing a "rational shopper" metaphor (Whyte, 1968). However, as Westney (1987) pointed out, this metaphor does not do justice to the amount of adaptation that frequently takes place. We suggest that adaptation in response to cultural misfit is better addressed by the idea of the "cultural entrepreneur" (DiMaggio, 1992) who uses culture as a "toolkit" (Swidler, 1986) and adapts cultural objects to make them useful in relation to local cultural expectations. Particularly relevant here are adaptations that overcome a cultural misfit by naming and positioning the innovation (Hirsch, 1986; Rogers, 1995). While the availability of knowledge is the key factor influencing responses to a lack of technical fit, we expect conformity pressures to be the primary mechanism affecting responses to a lack of cultural fit.

During initial stages of the diffusion process, conformity pressures are essentially absent since models for conformity have not yet

 $<sup>^9</sup>$  Hirsch's (1986) and Hays' (1996) articles are exceptions in which the authors paid more attention to cultural fit.

emerged. Accordingly, early adopters have considerably more latitude to experiment with a practice, define it, label it, and adapt it to their local needs, implementing it in a manner that works for them. However, later in the diffusion process, when established models emerge and conformity pressures increase, the ability of the late adopters to adapt and reduce misfit will be restricted. This also implies that cultural misfit is more likely to persist during the latter stages of the diffusion process, since later adopters feel restrained in their ability to adapt the practice and thus implement truer or high-fidelity versions of the practice. Accordingly, once the new innovation has been sufficiently modified by the cultural entrepreneur to make it acceptable and it develops a halo of social validation, subsequent diffusion will largely result in the spread of a culturally legitimated and institutionalized model (Tolbert & Zucker 1996), leading to constraints on the ability of late adopters to modify the innovation (e.g., Tolbert & Zucker 1983). Because of legitimacy concerns, late adopters have fewer "degrees of freedom" to adapt a practice, even if they experience misfit, and with increasing institutionalization one is likely to see less variation in practices (Tolbert & Zucker, 1996).

For instance, in their study of the diffusion of TQM diffusion, Westphal et al. (1997) argued that early adopters adapted and customized TQM practices while later adopters conformed to the normative patterns of practices introduced by these early adopters. Thus, we propose that the pattern of adaptation in response to cultural misfit will lead to considerable adaptation by early adopters who manipulate the practice's meaning and develop culturally legitimate models, followed by the diffusion of these models in largely unchanged form by later adopters. Restated as a proposition, we offer the following.

Proposition 3: When adopters experience low cultural fit between the characteristics of the practice and the organization, early adopters will implement lower-fidelity versions whereas later adopters will implement higher-fidelity versions of the practice.

However, while later adopters will engage in less redefinition of the practice because of con-

formity pressures that come to define the cultural meaning and acceptable form of a practice, misfit will nevertheless affect the extent of their practice implementation. Mechanisms of conformity pressures suggest a different pattern regarding the effect of cultural misfit on practice extensiveness. Since early adopters are able to reduce misfit, they are more likely to implement the practice more extensively. With conformity pressures less powerful during initial stages, there is a reduced need for and benefit from less extensive implementation or decoupling.

In contrast, late adopters will be more restricted in their ability to modify practices and may therefore implement less extensive versions of the practice to reduce the cost of misfit. For instance, Kennedy and Fiss (2009) found that later adopters who aimed to avoid social losses implemented less extensive versions of TQM. Similar arguments are suggested by a logic of decoupling, 10 where implementation is symbolic rather than substantive since organizations may engage in ceremonial implementation and not integrate the practice within the organization, aiming to show compliance toward external observers while hiding nonconformity (e.g., Boxenbaum & Jonsson, 2008; Elsbach & Sutton, 1992; Meyer & Rowan, 1977; Westphal & Zajac, 1994). Later adopters who feel compelled to adopt a practice because of conformity pressures will thus be more likely to implement less extensive versions of the practice. This suggests the following proposition.

Proposition 4: When adopters experience low cultural fit between the characteristics of the practice and the organization, early adopters will implement more extensive versions whereas later adopters will implement less extensive versions of the practice.

These arguments about cultural fit suggest a pattern that is the inverse of that for technical

<sup>&</sup>lt;sup>10</sup> Decoupling here refers more to "surface-level" or ceremonial (less extensive) implementation than to actively "reworking" or modifying the practice to fit with the organization. However, it is possible that the adopted practice being decoupled during implementation may be qualitatively different from the previous version of the practice (low fidelity) and that decoupling might also entail a change in meaning of the practice.

fit, with tailored adaptation among early adopters and low-dosage adaptation among later adopters. Figure 2b again shows how these differences among early and later adopters map onto the two dimensions of adaptation.

#### Political Fit

By political fit we mean the degree to which the implicit or explicit normative characteristics of a diffusing practice are compatible with the interests and agendas of potential adopters. Clearly, many diffusing practices are not "neutral" entities; rather, they come loaded with normative theories about the world that may or may not be in line with the theories and values of the potential adopters. While rational and social accounts of the diffusion of practices tend to emphasize the relevance of technological and cultural issues, both sets of accounts are largely silent on how diffusing practices may affect the balance of power and interests in adopting organizations.

Yet this neglects the fact that organizations are inherently political arenas in which struggles over diverging interests take place (Cyert & March, 1963; Davis & Thompson, 1994) and where adoption of a specific practice may have significant consequences regarding the allocation of power and resources. Attention to political factors reintroduces issues of competition and strategizing between interest groups for power, authority, and leadership (Carlile, 2004; Drory & Romm, 1990; Fligstein, 1996; Greenwood & Hinings, 1996; Mayes & Allen, 1977) into the study of diffusion—themes that have largely been neglected in the diffusion literature. The "political" label we use here thus includes not just coercive elements but also the norms, power structures, and agendas of potential adopters, where organizations are viewed as a coalition-based political system (Eisenhardt & Zbaracki, 1992; Pfeffer, 1981).

On the supply side, practice-level factors are the implicit or explicit normative claims the diffusing item explicitly embodies. Some diffusing practices are more controversial because of their specific characteristics; examples here include what Mooney and Lee refer to as "morality policies"—that is, policies that "regulate behavior to validate basic values that are not universally held in a polity" (1999: 81), such as child labor (Khan, Munir, & Willmott, 2007), alcohol

use, pornography, or the death penalty (e.g., Mooney & Lee, 1995, 1999; Tatalovich, Smith, & Bobic, 1994). Other examples of items that explicitly embody normative claims include stakeholder laws (Monks & Minow, 2001), shareholder value management (Fiss & Zajac, 2004), domestic partner benefits (Briscoe & Safford, 2008; Creed et al., 2002), and corporate governance mechanisms such as "golden parachutes" for executives (Davis & Greve, 1997).

On the demand side, organization-level factors include formal and informal power structures, coalitions, and resource dependencies that may trigger political strategizing and influence how innovative management practices are received by the organization (e.g., Fligstein, 1985; Lounsbury, 2002; Mamman, 2002; Marquette, 1981; Tolbert & Zucker, 1983). Powerful interest groups may block the adoption of certain aspects of technically feasible innovations. For instance, Knights and McCabe (1999) provided an in-depth analysis of power, political machinations, and resistance in a major U.K. retail bank during the operation of TQM regimes and explored how hierarchical power structures impinged on TQM and restricted its operation.

At the intraorganization level political factors include individual traits, such as personal interests and agendas of organizational members (Brass, 2002), while at the supraorganization level political fit is affected by industry-level phenomena, such as political settlements, union agreements, and government regulations (Zeitz et al., 1999), as well as societal dimensions, such as the types and character of political systems and labor market policies, political freedoms, and national policies vis-à-vis political, corporate, and social groups (Rasler, 1996).

#### Adaptation and Political Fit

We expect two mechanisms—less emphasized in both rational and social accounts—to influence adaptation in response to a lack of political fit of a diffusing practice: enforcement pressures and compromise. Enforcement pressures refer to policing and monitoring in order to enforce compliance. Assuming high enforcement and scrutiny pressures during initial stages, early adopters will be less able to adapt and reduce misfit. Thus, they will implement truer or high-fidelity versions of the practice, and political misfit will persist.

By compromise we mean a response that accommodates the political demands of a heterogeneous political environment, leading to implementation of less faithful and less extensive forms of the practice. Compromise will emerge primarily because of maturation and countermobilization (Poole & Zeigler, 1981). Maturation here refers to a "natural" process in which normative claims are respecified to adjust to estimates of the probability of success. This process is frequently observed in social movements (Gamson, 1975), where "yesterday's extremists become today's moderates" (Poole & Zeigler, 1981). The second reason—countermobilization—suggests that normative claims will call forth competing claims and that the back-andforth of ideological contest will lead to a gradual shift in the original position. For example, in his study of the diffusion of public policies, such as child abuse reporting laws and public campaign funding laws among U.S. states, Hays (1996) found greater adaptation among later adopters who adopted different versions of similar laws and created substantially different policies through adaptation. In a similar vein, Zbaracki's (1998) study of the diffusion of TQM suggests that implementation of this practice resulted in considerable variation as managers appropriated the rhetoric of quality management, with TQM becoming increasingly ambiguous, diffuse, and open to appropriation by various interest groups.

The adaptation pattern suggested by enforcement pressures and by maturity and compromise as responses to political misfit is one where early adopters remain under closer scrutiny and adopt the new practice with little if any adaptation. However, later in the diffusion process, as scrutiny wanes and the practice matures in response to countermobilization and contestation and as enforcement mechanisms get blunted over time, new versions emerge that better accommodate constituents whose interests are not aligned with the new practice. In this situation of poor political fit, more defiance is possible, and later adopters should increasingly be able to engage in adaptation in order to reduce misfit, with more and differing versions of the practice emerging. This suggests the following patterns of adaptation.

Proposition 5: When adopters experience low political fit between the

characteristics of the practice and the organization, early adopters will implement higher-fidelity versions whereas later adopters will implement lower-fidelity versions of the practice.

To further reduce political misfit and accommodate divergent political interests, later adopters may also engage in decoupling by implementing less extensive versions of the practice. In this regard, later adopters are under less scrutiny and can tailor the practice to make it less problematic by not only adapting a lowerfidelity version but also implementing less extensive versions of the practice. For example, Westphal and Zajac (1994, 2001) found that symbolic adoption of long-term incentive plans and stock repurchase programs was frequently decoupled from implementation, while Fiss and Zajac (2006) showed how German firms decoupled the announcement of politically controversial strategic change from actual implementation. We expect these forms of less extensive implementation to be particularly prevalent among later adopters for two reasons. First, with a growing number of adopters, scrutiny of implementation becomes less feasible, allowing later adopters to adapt the practice by reducing its misfit with the organization and its constituents. Second, with growing maturation and countermobilization, enforcement mechanisms are likely to become less stringent, again providing later adopters greater opportunities for implementing less extensive versions of the practice.

Proposition 6: When adopters experience low political fit between the characteristics of the practice and the organization, early adopters will implement more extensive versions whereas later adopters will implement less extensive versions of the practice.

The arguments above suggest that a lack of political fit will be associated with a full and true implementation (high fidelity and high extensiveness) among early adopters and a pattern of distant adaptation (low fidelity and low extensiveness) among later adopters, as shown in Figure 2c.

In short, lack of technical, cultural, and political misfit is the main driver of adaptation, while limited knowledge, conformity pressures, and enforcement pressures and compromise constrain adaptation activity at different points in the diffusion process. These mechanisms determine whether and where in the diffusion process we would more likely see the persistence of technical, cultural, and political misfit and adaptation activity.

#### **BOUNDARY CONDITIONS OF ADAPTATION**

We have argued here that diffusing practices are socially meaningful, multifaceted bundles of knowledge rather than neutral innovations with fixed parameters and universal applicability. In doing so we have aimed to shift the focus of recent work from a primary concern with demand-side characteristics toward the fit between demand-side and supply-side characteristics of diffusion processes. We now further develop these arguments by specifically considering supply-side practice characteristics, and we develop several propositions concerning how these features may affect adaptation processes in response to fit.

The argument that practice characteristics affect diffusion is, of course, not new. Following the initial work of Rogers (1962), a number of authors have argued that the adoption and rejection of a practice will be influenced by practice attributes (see Wolfe, 1994, for a review of practice attributes). Rogers himself (1995) pointed to five characteristics: relative advantage, compatibility, complexity, trialability, and observability. Other researchers have added ambiguity (Benders & Van Veen, 2001), magnitude or disruptiveness (Zaltman, Duncan, & Holbek, 1973), risk (Meyer & Goes, 1988), and status (Mohr, 1969). The result has been a considerable list of sometimes overlapping characteristics, and most empirical research has tended to avoid such issues of the nature of practices (Wolfe, 1994), preferring to shift the focus to adopter characteristics—a focus that has hampered empirical comparisons of the adoption of practices with inherently different attributes (Kimberly & Evanisko, 1981; cf. Czarniawska & Joerges, 1996).

Studies focusing on adaptation processes have pointed out that practice characteristics are not independent of the interpretive social processes of enactment by adopters—fit, in this regard, can be influenced by the discursive activities of distributors and third-party evaluators, such as the media (Mazza & Alvarez, 2000), management consultants (Jackson, 2001), academics (Sturdy & Gabriel, 2000), nongovernmental organizations (Bierstecker, 1995), or professional associations (Robertson et al., 1996). For instance, despite evidence suggesting that TQM is less valuable for smaller manufacturing organizations, consultants driven by competitive urgency promoted this new management practice unselectively across firms, arguing that TQM "works for all types of management: industrial, service, education, and government" (Stuelpnagel, 1988: 4). As a result, many small- and medium-size enterprises readily adopted TQM without necessarily carefully assessing its value.

However, while practice characteristics and fit are to some extent perceived, we suggest that there are limits on this ability to construct them. Specifically, we argue that there are certain key characteristics or affordances (Gibson, 1979; Hutchby, 2001) that make it more or less likely a practice will be adapted. Within the sociology of technology, these affordances—and the possibilities they offer for action—suggest a constraining as well as enabling materiality of practices; for instance, the "walk-on-ability" of a surface exists whether or not someone walks on it, yet this characteristic is mediated by perception (Gibson, 1982).11 While affordance-type practice characteristics are subject to redefinition and reinterpretation and may thus interact with the characteristics of adopters, they nevertheless are to a considerable extent independent of these adopter characteristics.

There is no strong theory as to which affordances matter for practice adaptation. However, based on prior work regarding practice characteristics and adoption (Gatignon & Robertson, 1985; Tornatzky & Klein, 1982), we suggest three key affordances for practices that are relevant for adaptation. These are the practices' interpretive viability, divisibility, and complexity.

<sup>&</sup>lt;sup>11</sup> The notion of affordances thus suggests a "third way" between the epistemological stances of realism on the one hand and constructivism on the other, and the materiality of practices relates to their effects, rather than merely to physical features (e.g., Hutchby, 2001).

#### Interpretive Viability

The notion of interpretive viability emerges from prior work on the nature of practice adaptation that shifts attention to interpretive schemes, suggesting that certain practices have a greater likelihood of adaptation because they lend themselves to multiple interpretations and can be adapted to multiple agendas (Benders & van Veen, 2001). Interpretive viability is thus related to ambiguity (Giroux, 2006) but is preferable since it directs attention toward the constraining and enabling features of a practice as related to the meaning associated with it. As Benders and van Veen (2001) suggest, interpretive viability will be connected with a growing differentiation of interpretations. For instance, a practice such as the use of self-managing teams affords greater interpretive viability since it operates at a fairly abstract level, providing greater opportunities for divergent interpretation and sensemaking (Griffith, 1999).

In contrast, more "restrictive" practices, such as those protected by patents or legalities, are less amenable to varying interpretations and are less likely to be adapted regarding their meaning. For example, the practice of franchising carries legal stipulations allowing less freedom for adaptation to local organizational contexts. While interpretive viability will thus affect the fidelity of adaptation, it is less likely to affect the extensiveness of practice adaptation; interpretation relates primarily to the meaning of the practice rather than to the extent of its use. <sup>12</sup> Accordingly, interpretive viability will differentially enable and constrain adaptation, as suggested in the following proposition.

Proposition 7: Greater interpretive viability of a practice will lead to lower-fidelity adaptation but will not affect practice extensiveness.

#### Divisibility

The second affordance we discuss here is divisibility—the degree to which the practice can

be implemented independent of scale. Divisibility implies that practices can be adopted on a small scale (Fliegel, Kivlin, & Sekhon, 1968), and it is closely related to the notion of trialability, which is "the degree to which an innovation may be experimented with on a limited basis" (Rogers, 1995: 243). As Tornatzky and Klein (1982) point out, practices with a high degree of divisibility also have a high degree of trialability, although the reverse is not always true; practices that can be easily tried out may exhibit trialability because of easy reversibility rather than because of scale issues.

Conceptually, the notion of divisibility implies a holographic understanding of the practice, where each part contains the essential characteristics of the practice, allowing for partial adaptation. The use of hybrid corn is frequently given as an example of a highly divisible practice (cf. Tornatzky & Klein, 1982) since it gives the adopter the option of small-scale trial before full-scale use and thus reduces the cost of adaptation in terms of practice extent. At the same time, divisibility of a practice does not allow inferences regarding the fidelity of adaptation in the same way that interpretive flexibility affects the "malleability" of a practice. This suggests that the affordance of divisibility will affect adaptation extensiveness and that the reduced risk associated with partial adoption will, on average, lead to less extensive implementation while not affecting adaptation fidelity.

Proposition 8: Greater divisibility of a practice will lead to less extensive adaptation but will not affect practice fidelity.

#### Complexity

In a number of prior works, scholars have noted the effect of practice complexity on the likelihood of adoption (e.g., Pelz, 1985; Rogers, 1995). By practice complexity we mean the degree to which an organizational practice is perceived as difficult to understand and implement or is causally ambiguous owing to the number and types of social interfaces and higher human involvement (Lillrank, 1995; Rogers & Shoemaker, 1971). Complexity is among the most studied properties of diffusing practices, and findings consistently point to a negative relationship between complexity and the speed of adoption (Tornatzky & Klein, 1982).

<sup>&</sup>lt;sup>12</sup> However, it is possible, of course, that interpretive viability will eventually affect the extent of implementation. For instance, greater interpretive viability may render a practice difficult to observe, thus allowing organizations to claim extensive implementation when really the practice is largely decoupled.

The key notion underlying complexity is that a complex practice consists of more components and more uncertainty regarding the links between these components, as well as more uncertainty about the causal links between inputs and outputs (Pelz, 1985). In contrast, low-complexity practices contain only a few parts, and the causal relationships between them are usually fairly well understood by the potential adopters.

Complexity of a practice constrains adaptation through the uncertainty resulting from a lack of understanding regarding the practice's causal ambiguity. Given this uncertainty, adopters will be likely to refrain from adapting the practice, instead implementing standard versions. At the same time, higher complexity of a practice is likely to constrain the extensiveness of practice adaptation. In this sense high complexity of a practice will constrain whereas low complexity will enable adaptation processes, suggesting the following proposition.

Proposition 9: Greater complexity of a practice will lead to higher-fidelity and less extensive adaptation.

#### DISCUSSION AND CONCLUSION

Our intended contribution has been to provide an original analytical framework for understanding adaptation patterns that could blend the insights of parsimonious population-level diffusion models with the insights of case-based studies of how practices diffuse. Using two fundamental dimensions (fidelity and extensiveness) to map the adaptation continuum, we developed arguments as to how three forms of fit and misfit result in different adaptation patterns of diffusing practices across the fitness landscape, and we furthermore suggested that practice affordances can both enable and constrain these adaptation patterns. Our approach stands in contrast to earlier, more mechanical frame-

works developed around the concept of diffusion as a physical process, with practices as readymade and unchangeable physical entities originating from one source and then becoming more diffused over time.

Our focus on adaptation processes highlights the strengths and weaknesses of traditional rational and social accounts of diffusion among organizations. For example, if adaptation is the norm rather than the exception, then the technical, cultural, and political implications of a diffusing practice will often be subject to negotiation and change during the diffusion process. As a result, organizations will frequently find it difficult to conduct rational calculations on the cost-benefit trade-offs of adoption when the meaning of the diffusing practice is still in flux. Furthermore, these organizations are themselves significant "sensegivers" in the complex process that shapes the meaning of a diffusing practice (Fiss & Zajac, 2006). This likewise points to the emergent, processual, and recursive character of implementation and diffusion, where outcomes are often undetermined, since the interactions between the practice and its new context are often poorly understood (Sewell, 1992). In addition, the ideas of ongoing negotiation and change suggest that the legitimacy of a diffusing practice is also in flux in ways that go beyond social accounts emphasizing simple mimetic processes (Tolbert & Zucker, 1996). Indeed, adaptation itself as a process may vary significantly between the creation of home-grown solutions, where limited versions of a practice are available, and the selection of solutions from the wider range of practice variants available in society.

We have argued here that technical, cultural, and political categories of factors present analytically separate aspects and mechanisms of the implementation and diffusion process and that each may be present to varying degrees. However, this is not to say that the three forms of fit are completely independent in their emergence and development. For example, the prevalence of a particular technology among adopters may often be the result of specific cultural preferences (Graham, 1954). Similarly, cultural contexts are shaped by the outcomes of political struggles, and vice versa (Ham & Hill, 1984). However, we believe it is useful to treat the three categories at various levels of analysis independently for analytical clarity and predictive pre-

<sup>&</sup>lt;sup>13</sup> An alternative argument suggests that complex practices with high levels of causal ambiguity as to what elements are critical may be imperfectly understood and interpreted (Rivkin, 2000), suggesting that imitation will frequently result in imperfect implementation and variation. While this is entirely plausible for complex systems, it refers to a mechanism of unintended variation resulting from information loss, not purposeful and deliberate adaptation, which is the focus of our study.

cision, even while acknowledging that the outcome of the diffusion process may, in turn, change the technical, cultural, and political landscape.

#### Empirical and Methodological Considerations

A central aspect of our perspective is that the adoption and diffusion of new corporate practices often requires significant amounts of adaptive as well as interpretive effort, as organizations seek to integrate these practices into existing organizational technologies, cultural contexts, and political arenas. Previous research has largely followed the traditional diffusion model that employs a binary dependent variable for adoption. We recognize that this is partly due to the methodological difficulties of shifting dependent variables, since most statistical models make considerable homogenizing assumptions in order to process their data, treating diffusing practices as uniform entities that do not vary by context and remain stable over time. In contrast, we place adaptation at the heart of diffusion studies and argue that more attention needs to be focused on the ways in which adopters actively shape the diffusing practice to ensure fit with the organizational context. This shift in emphasis merits some comments regarding questions of operationalization and measurement.

First, our approach encourages studies combining qualitative and quantitative methods that could more clearly identify the processes by which new practices are made to fit the adopter's particular situation. However, while qualitative studies seem a natural choice for studying the richness of meaning construction, quantitative studies are usually more adept at tracing interorganizational adaptation patterns, particularly over time. In this regard the question then becomes how to measure fidelity, extensiveness, or fit characteristics across a larger set of organizations and practices.

Fortunately, there is considerable precedent regarding the operationalization of the constructs we have discussed here. For instance, several studies have aimed to measure how far implementation deviates from prior practice forms (e.g., Larsen & Argawalla-Rogers, 1977; Rice & Rogers, 1980). Measures of fidelity here might include expert ratings of core and periphery practice elements (e.g., Kessler, Nixon, &

Nelson, 2008) or deviation score approaches regarding key practice elements (Doty & Glick, 1994). Prior works also suggest useful measures of practice extensiveness, both survey based and archival ones, such as perceived extent of implementation, or the proportion of departments in an organization using a practice (e.g., Kennedy & Fiss, 2009; Lewis & Seibold, 1993; Scheirer, 1983; Wu et al., 2003).

Similarly, scholars can use existing scales or can develop new ones for gauging technical, cultural, and political fit or congruence. For studying technical fit one might create a measure of the similarity of the technological base of the practice and the adopting organization based on, for example, patent stock data (Chung & Yeaple, 2008) or expert assessment of similarity. Furthermore, on the demand side the absorptive capacity of an organization is an established measure (Lane & Lubatkin, 1998). For examining cultural fit, international business scholars have provided useful instruments that measure cultural fit at various levels of analysis (Newman & Nollen, 1998; Weber & Menipaz, 2003). Finally, the literature on power and organizational politics (Bacharach & Lawler, 1998; Bouquet & Birkinshaw, 2008; Eisenhardt & Zbaracki, 1992) that examines how conflicting interests, political alignments, divergent agendas, and values at play within organizations influence receptivity to new practices can provide useful clues for measuring political fit, including the use of perceptual measures ("does this practice conflict with your interests?").14 Affordances such as complexity and interpretive viability might be measured by using expert ratings, as prior studies have shown (Tornatzky & Klein, 1982). While some of these measures might involve new and creative ways to operationalize the relevant constructs, it would seem that there are no insurmountable difficulties and there are considerable precedents to guide this task.

#### Future Research Directions

Our research suggests several fruitful avenues for future research. For example, it seems

 $<sup>^{14}</sup>$  See Kacmar and Baron (1999) for a review of different scales for gauging various aspects of organizational politics.

plausible that the information availability processes associated with technical adaptation may often be blocked in the presence of power and conflicting interests. Perhaps similar effects may be observed in the presence of culturally legitimated models. On the other hand, greater availability of information about a practice may also result in shifting positions of power, as has been observed in how new technologies restructure organizations (e.g., Barley, 1986). Being able to account for these interrelated processes would allow us to study and explain much more complex patterns of adaptation in which models for adoption get established, contested, modified, and replaced. Again, these considerations point to adoption and implementation as a dynamic process where much of the relevant activity of the diffusion process begins rather than ends. Stated differently, we hope that our theoretical framework will encourage others studying diffusion across firms to also address the question of implementation or diffusion within firms and to take into account both the independent and interdependent effects of considering these two processes jointly. Indeed, adopters are not necessarily internally homogeneous, and during intraorganizational diffusion, there is always the possibility of heterogeneity in levels of practice fit across networks, projects, geographies, and power structures.

Further research might also explore diffusion processes where late adopters (responding to innovation at later stages of the diffusion process) discard certain innovations and adaptations as they grapple with their own solutions to specific problems. Such research would not only connect to themes of abandonment in diffusion research (Greve, 1995; Strang & Macy, 2001) but also would extend such themes by attending to questions of interrupted, incomplete, or even failed diffusion processes (Jonsson, 2009), which have so far received very little attention. Our framework suggests that factors associated with technical, cultural, and political (mis)fit may be important predictors of such outcomes. Such research could also illuminate when learning processes may be blocked or when the legitimacy of culturally accepted models may wane, affecting both the intra and interorganizational diffusion of management practices.

Our study also contributes to the literature on strategic and organizational fit, and we see our approach as quite consistent with recent advances in this area (Zajac et al., 2000), which have emphasized the need for the concept of fit to be dynamic, multivariate, and normative. Our additional emphasis on adaptation is important but also often unaddressed in the literature on fit, which (like the diffusion literature) has focused more on the antecedents and consequences of the central concept (fit or diffusion, respectively), often without questioning the antecedents or consequences of changes in the practice that is diffusing or fitting to organizations.

Our analysis of the role of adaptation in the diffusion process also raises intriguing questions regarding the identity of a diffusing practice. If corporate practices are frequently adapted, at what point do they become a different entity and should no longer be thought of as the same practice? Do original adopters of new practices sometimes seek to discourage adaptation in order to protect the purity of the diffusing practice, or disown the practice when adaptation is extensive? Do certain organizations conceal the adoption and adaptation of practices? Very little research has focused on how diffusing items change their identity and the response such changes generate on the part of key actors involved in the diffusion process.

Finally, while the current paper has highlighted some of the supply-side factors in the diffusion process, much remains to be done to explore the role of change agents, fashion setters, opinion leaders, and new ideologies in generating and positioning practices for diffusion, both within and across organizations (Birkinshaw, Hamel, & Mol, 2008; Zajac & Westphal, 2004). Research through comparative case studies not just across practices but also across organizations could provide important insights into processes by which adoption, adaptation, and diffusion of different types of practices occur. Such research would show how adaptation is affected by outsiders who have an interest in the diffusion practice and who aim to affect technical, cultural, and political fit. We therefore hope our theorizing will spawn further conceptual and empirical analyses to broaden the theoretical base and predictive power of studies on the diffusion of organizational practices and on strategic and organizational fit. We believe that the framework we have developed for considering adaptation, fit, and affordances in the diffusion process will generate a more nuanced theoretical and empirical understanding of the adoption, adaptation, and abandonment of diffusing management practices, along with a greater ability to assess the likely consequences of such behaviors.

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