

WHEN THE GLASS IS HALF FULL AND HALF EMPTY: CEOs' AMBIVALENT INTERPRETATIONS OF STRATEGIC ISSUES

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Organizational scholars have highlighted the importance of interpretive ambivalence for mindfulness, creativity, and strategic change. Ambivalence occurs when an issue is seen simultaneously as positive and negative. We examine organizational factors that influence the propensity of organizational leaders to evaluate a new strategic issue ambivalently. Data come from a survey of 220 German CEOs confronted with the enlargement of the European Union. We find that CEOs of firms with a more ambidextrous strategic orientation and a moderate sense of organizational control over their environment are most likely to be ambivalent about this issue. Our findings affirm the prevalence of interpretive ambivalence at the executive level and suggest ways for organizations to promote or prevent ambivalence in strategic sensemaking. Copyright © 2010 John Wiley & Sons, Ltd.

INTRODUCTION

Organizational and strategy scholars are increasingly interested in the phenomenon of interpretive ambivalence in organizations (Fong, 2006; Gilbert, 2006; Piderit, 2000; Weick, Sutcliffe, and Obstfeld, 1999). Ambivalence refers to holding competing evaluations of an issue (Kaplan, 1972). For example, a chief executive officer (CEO) may see a change in the firm's environment as both positive and negative for the firm. Such ambivalent issue evaluations affect strategy processes and organizational outcomes. Some scholars have suggested that ambivalence may prevent oversimplifications, enhance mindfulness (Fiol and O'Connor, 2003;

Weick *et al.*, 1999), and encourage wider participation in problem solving (Piderit, 2000). In addition, Fong (2006) found that the experience of ambivalence triggers an increased sensitivity to associations, which is an important aspect of creativity. Others have cautioned, however, that the mindfulness and cognitive complexity associated with ambivalence can get in the way of swift responses to an event (Levinthal and Rerup, 2006; Porac and Rosa, 1996).

Ambivalent understandings of strategic issues are particularly central for top executives, who play a key role in shaping collective interpretations and strategic responses in organizations (Barr, 1998; Gioia and Chittipeddi, 1991; Hambrick and Mason, 1984; Pratt and Doucet, 2000). Gilbert (2006), for example, found in a case study of a publishing company that the CEO saw the emergence of online publishing as simultaneously a threat and an opportunity. The executive's ambivalent interpretation of this environmental shift allowed for experimentation and wider

Keywords: ambivalence; sensemaking; strategic issue diagnosis; organizational mindfulness; managerial cognition; organizational context

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participation, which enabled the firm to identify successful responses to the drastic change.

These studies suggest that leaders' ambivalence is more common and more important than previously assumed. But the conditions under which executives develop ambivalent evaluations of strategic issues have rarely been studied (Gilbert, 2006). Previous work on strategic issue interpretation has, instead, examined why executives interpret an issue as either positive or negative (Denison *et al.*, 1996; Thomas and McDaniel, 1990). One key factor in evaluative ambivalence is the organizational context of executive sensemaking. Organizational structures and belief systems expose executives to information, ready-made framings, and social role expectations (Daft and Weick, 1984; Dutton and Duncan, 1987) that act as perceptual filters and influence which aspects of an issue CEOs attend to (Ocasio, 1997). These filters and framings, in turn, influence whether top managers evaluate an issue ambivalently.

Organizational sources of executive sensemaking are of particular interest to strategy scholars because they may help explain firm differences in competitive behavior. However, studies that unpack how organizational factors trigger executive ambivalence are decidedly scarce. Our study begins to fill this gap. We embed the concept of ambivalence in the literature on strategic issue interpretation and sensemaking (e.g., Dutton and Jackson, 1987; Julian and Ofori-Dankwa, 2008), and lay out basic organizational and cognitive mechanisms that prompt top executives to see issues ambivalently. We use survey data on how CEOs of German firms evaluated a salient strategic issue—the 2004 European Union (EU) enlargement.

The paper's contribution is theoretical and empirical. Theoretically, we elaborate the mechanisms through which organizational context triggers CEOs' ambivalent evaluations. Previous research suggests that top decision makers' ambivalence is consequential, but has paid little attention to antecedents (Fiol and O'Connor, 2003; Fong, 2006; Gilbert, 2006). Our study puts this inquiry on firmer ground by drawing on expansive social psychological literature on attitudinal ambivalence. Empirically, we test hypotheses about the relationship between organizational characteristics and CEO ambivalence in what is, to

the best of our knowledge, the first larger sample study. Our analyses suggest that top managers in firms with a more ambidextrous strategic orientation and a moderate sense of organizational control are more likely to evaluate the issue ambivalently.

THEORETICAL FRAMEWORK

Evaluating a strategic issue as positive, negative, or both is an act of interpretation. Interpretation answers the basic question, *what type of situation is this?* (Weick, Sutcliffe, and Obstfeld, 2005: 409), which is achieved by 'the fitting of information into some kind of [cognitive] structure' (Thomas, Clark, and Gioia, 1993: 241). Issues and events become meaningful in relation to the firm's existing knowledge and identity (Lyles, 1981). Interpretation results in framings of information along more generic dimensions, so that unique issues become comparable. Managers commonly employ the dimensions of valence (positive or negative for the firm) and agency (controllable or uncontrollable) in interpreting issues (Dutton and Jackson, 1987). The familiar labels of 'threat' and 'opportunity' arise from these assessments (Jackson and Dutton, 1988). Positive evaluations include an assessment that the organization is likely to gain from the issue, while negative evaluations includes the expectation that the current issue will lead to losses (Thomas and McDaniel, 1990).

Research in social psychology has found that individuals attach such positive and negative evaluations to issues, objects, and persons (Fazio, Eiser, and Shook, 2004), and that evaluations not only consist of *cold* analytic assessments but also of *hot* affective reactions (Fazio, 2007). Individuals assess the overall valence of an issue based on attending to its multiple aspects (Petty *et al.*, 2007). They relate perceived attributes of the issue to repertoires of analogous attributes and evaluations stored in memory. The overall evaluation of the present issue is a product of the evaluations accessed through the different aspects (Fazio, 2007). The valences of attended attributes thus help individuals put a novel, complex issue onto simpler dimensions (Petty, Briñol, and DeMarree, 2007), understand the overall implications of the issue, and activate corresponding response schemas (Cacioppo, Gardner, and Berntson, 1999; Higgins, 1997).

Previous work on strategic issue diagnosis often implies that executives habitually classify issues as either positive or negative (e.g., Chattopadhyay, Glick, and Huber, 2001; Thomas *et al.*, 1993). Yet both positive and negative evaluations can become associated with an issue, so that the person evaluates the issue as positive and negative *at the same time* (de Liver, van der Pligt, and Wigboldus, 2007; Petty *et al.*, 2007). The simultaneous presence of positive and negative evaluations associated with the same issue is referred to as attitudinal ambivalence (Kaplan, 1972; Thompson, Zanna, and Griffin, 1995).¹ This notion builds on the conclusion that a bipolar conceptualization of evaluations as ranging from positive to negative is *insufficient* to capture the actual cognitive processes involved in evaluation (Cacioppo, Gardner, and Berntson 1997: 6). Several studies have demonstrated that positive and negative attitudes are separate dimensions (e.g., Costarelli and Colloca, 2004; de Liver *et al.*, 2007; Eagly and Chaiken, 1998). In contrast to the measurement of temperature, where warmer means less cold, a more positive evaluation does not automatically lead to a less negative evaluation. Holding evaluations of competing valence is possible, for example, when a person faces an issue with positive and negative facets (de Liver *et al.*, 2007; Petty *et al.*, 2007). In developing a *holistic* view of the issue, the person will not form a univalent or neutral but rather an ambivalent evaluation (Petty *et al.*, 2007).

What are general sources of ambivalence? Studies by Linville (1982), Judd and Lusk (1984), and Rudolph and Popp (2007) suggest that when individuals consider a greater number of aspects, they are less likely to perceive an issue as simply good or bad. However, if the aspects considered are closely related, a more univalent evaluation is likely despite the analyzing of much information (Eagly and Chaiken, 1998; Judd and Lusk, 1984). Thus, it is primarily when individuals apply different perspectives and knowledge structures to an issue that looking at more aspects leads to greater

ambivalence in the overall evaluation (Rudolph and Popp, 2007).

When would executives entertain more diverse framings and identify more diverse attributes of strategic issues? Research on managerial cognition suggests that top executives' interpretive processing is shaped by their organizations (Daft and Weick, 1984; Dutton and Duncan, 1987). Organizations provide a relatively strong context that provides collective, structurally embedded beliefs and frameworks through which executives perceive the issues the firm is confronted with (Dutton and Duncan, 1987). Organizations also filter the information and framings to which a CEO is exposed, because sensemaking activities are distributed and relayed to top executives through channels and routines (Ocasio, 1997; Starbuck and Milliken, 1988). Accordingly, previous research has found organization-level differences in what attributes executives attend to and in the framings they apply (e.g., Dutton and Dukerich, 1991; Thomas and McDaniel, 1990). Hence, whether CEOs consider a diverse or narrow set of issue aspects depends in part on the organizational context that they find themselves in.

Previous research identifies several organizational factors that narrow or broaden issue interpretation: core beliefs and identities that relate the organization to its environment (Bettis and Prahalad, 1995; Prahalad and Bettis, 1986), accumulated experiences in a domain of activity (Miller, 1993), and the coherence of executives' social role expectations (Merton, 1976). Collective representations of an organization's environment and beliefs about what the organization is and how it should act filter and frame information, and thereby influence how executives evaluate an issue (Dutton and Dukerich, 1991; Kiesler and Sproull, 1982; Nystrom and Starbuck, 1984). For example, when executives look at an issue through the lens of a single-minded strategic direction or a very homogeneous identity, they deem a narrower set of issue attributes relevant. More heterogeneous strategy logics and identities make more ambivalent evaluations likely by admitting more diverse aspects for evaluation.

Similarly, beliefs about how much the organization can shape the outcomes of an event in its environment affect the effort to seek information and the diversity of perspectives entertained. CEOs with a greater sense of organizational controllability increase their sensemaking efforts because they believe that the effect of the issue

¹ Ambivalence stands in contrast to the more general notion of ambiguity, which also subsumes vagueness and uncertainty of evaluations and other framings. An ambivalent evaluation does not indicate that the valence of an issue is vague or unknown, which would imply that no specific cognitive structures are activated. Rather, ambivalence refers to the application of distinct and competing evaluations of an issue, so that cognitive structures associated with both evaluations are activated.

depends on their firm's decisions and actions. They seek more detailed information and arrive at more nuanced and ambivalent assessments (Bandura, 1997; Weick, 1998). However, as CEOs become more confident in their firm's ability to master the issue regardless of other factors, effort declines and more narrow routine perceptions result (Miller, 1993). Hence, leaders with very low and very high levels of controllability can be expected to consider a narrow set of frames and attributes, and less likely to develop ambivalent issue evaluations.

An organization's accumulated experience in the issue domain has also been frequently identified as an antecedent of executives' interpretations of events (e.g., Denison *et al.*, 1996; Starbuck and Milliken, 1988). Cumulative experience leads to the formation of more fine-grained schemas and a larger pool of knowledge structures embodied in organizational routines, structures, and members (Weick, 1995). This diversity prompts executives to examine strategic issues from different and more nuanced angles, consider a greater number and more diverse aspects, and form more ambivalent evaluations.

Lastly, top executives act not only as individuals, but also as occupants of a formal role in their firm that comes with a set of social expectations (Barnard, 1938; Merton, 1957). The social-structural context of executives' work in the form of organizational roles primes and triggers framings and information consistent with role expectations (Bechky, 2006; Weber and Glynn, 2006). CEOs' attitudinal ambivalence is partly induced by what Merton (1976) termed 'sociological ambivalence': competing normative expectations induced by different role partners. For example, managers in different functional areas are likely to view a strategic issue the organization is facing from their local perspective (Dearborn and Simon, 1958; Waller, Huber, and Glick, 1995) and relay corresponding expectations to the top executive (Gioia and Chittipeddi, 1991). Top corporate executives often face these situations because they need to integrate their leadership roles of different business units and functions (Gilbert, 2006). At least for broad strategic issues, top executives therefore are exposed to more diverse framings and different information. Greater structural diversity in the organization prompts CEOs to look at issues from different perspectives and entertain more ambivalent evaluations.

In sum, ambivalent evaluations are likely to arise when executives examine more diverse aspects of an issue, which itself is in part driven by the frameworks employed in the process. Organizations exert a strong influence over executives' interpretations by triggering the frames in use. The general contextual antecedents identified above—organizational beliefs, experiences, and role structures—affect executives' propensity to evaluate issues ambivalently. However, this does not mean that executives evaluate all issues alike. In addition to variation between firms, there is also likely variation across issues within firms. On the one hand, this is because organizational beliefs and experiences often pertain to specific domains, and it is the more proximate antecedents relevant to an issue's domain that are most strongly linked to ambivalence about a specific issue. For example, the same organization may hold narrow beliefs, perceive very little control over, and have little experience in the domain of employment issues, but pursue more varied strategies, perceive more control over, and have extensive experience with technological shifts. Accordingly, executives of this firm are less likely to interpret ambivalently employment issues than technology issues provided that both issues offer the same potential for ambivalent interpretations.

On the other hand, issues themselves allow for different degrees of ambivalence in interpretations. It is especially strategic issues—defined as potentially affecting a firm as a whole (Ansoff, 1965; Egelhoff, 1982)—that allow more ambivalent evaluations. Strategic issues are typically ill-structured and nonroutine (Lyles, 1981). The complex nature of these issues invites executives to apply different perspectives and arrive at more ambivalent evaluations, provided the organizational context encourages such ambivalence. In contrast, 'issues that are relatively pre-packaged' (Julian and Ofori-Dankwa, 2008: 101) make ambivalence less likely.

Predictions about ambivalent issue evaluations must thus be understood in the context of an issue's capacity for more ambivalent interpretations and of organizational antecedents in proximate domains. In this study, we focus on organizational antecedents of German CEOs' ambivalence about the 2004 EU enlargement. Before developing these hypotheses, we describe this empirical setting to assess the issue's potential for the development of ambivalent evaluations and

to identify the relevant proximate organizational domains.

EMPIRICAL SETTING: EUROPEAN UNION ENLARGEMENT

In May 2004, Cyprus and Malta, along with the Central European countries Hungary, the Czech Republic, Slovakia, Poland, Slovenia, Estonia, Latvia, and Lithuania, became members of the EU. In joining the EU, the 10 new member states accepted the binding *acquis communautaire*, which consists of the treaties and regulations passed by the European institutions, as well as all judgments defined by the Court of Justice. As a consequence, most restrictions between new and old member states were eliminated. Goods and capital markets were liberalized, and barriers to foreign direct investment and the free flow of goods and services across borders abolished. Firms from both old and new member states could, from May 2004 on, invest in, import, or export to all 25 member states without limitations.

The EU enlargement was an important strategic issue for German firms. It received extensive attention in the media and was discussed long before it took place. The high growth and liberalized markets in the acceding states was seen as stimulating demand and increasing export opportunities for firms in Germany. But market liberalization was also seen to intensify competition between firms of the old and new member states. German firms, in particular, faced competition due to lower wages at firms in the geographically close new member countries.

We chose this issue for several reasons. First, whatever the cumulative effect for a specific firm, the 2004 EU enlargement was a salient, equivocal, and complex issue with strategic implications for German firms, which is consistent with the definition of strategic issues (e.g., Dutton, Fahey, and Narayanan, 1983; Dutton, Walton, and Abrahamson, 1989; Thomas and McDaniel, 1990). Julian and Ofori-Dankwa (2008) called on researchers to study the interpretation of such broader strategic issues because of their importance for organizational environments. The issue of EU enlargement offered a potential multitude of facets and angles and thus matches the issue-level conditions for ambivalent evaluations outlined above. The enlargement impinged on several business

domains, and we therefore expect organizational beliefs, identities, and experience in these domains to be most relevant for sensemaking processes and resulting differences in CEOs' ambivalence about the event. A first domain is a firm's competitive strategy, as the event opened a sizeable new market with diverse demand characteristics, changed the set of competitors, and heightened cost-based competition.

Second, entry into foreign markets and potential regional strategies and structures are centrally implied by the enlargement project, so that experience with internationalization of sales and production is especially salient. Third, with the unique nature of this event, attributions of agency over the consequences of EU enlargement by virtue of relevant organizational resources are likely to affect sensemaking efforts more than the firm's general perceived efficacy. More general organizational characteristics, such as the diversity of business units and executive teams, are also likely to affect sensemaking processes.

HYPOTHESES

Strategic orientation

A firm's strategic orientation—the belief of how the firm should generally position itself and respond to developments in its environment—is an important filter of information that is embedded in the firm's culture, structure, and routines (Daft and Weick, 1984; Thomas and McDaniel, 1990). A single-minded focus on one strategic orientation primes executives with programmatic ideologies, paradigms, and traditions (Prahalad and Bettis, 1986). Thus, executives are likely to consider only a limited variety of issue aspects. When constructing a holistic evaluation of the issue, CEOs who use the lens of a single strategic orientation examine fewer and more similar attributes. As a result, these executives are less likely to evaluate the issue ambivalently.

Domain-offensive or domain-defensive strategic orientations as identified by Miles (1982) provide such coherent frameworks for strategic issues (Daft and Weick, 1984; Thomas and McDaniel, 1990). Domain-offensive strategies are associated with exploring and capitalizing on new opportunities, while domain-defensive strategies lead to a bias toward exploiting existing capabilities (Gioia

and Thomas, 1996). Thomas and McDaniel (1990) emphasize that members of firms with an offensive strategic orientation concentrate their search efforts on opportunity-related issue information. In contrast, executives of companies following a defensive strategic orientation focus on threat-related issue aspects. Recent research suggests that some firms consider defensive and offensive strategic orientations at the same time, a state referred to as strategic ambidexterity (e.g., Gibson and Birkinshaw, 2004; He and Wong, 2004; Rothaermel and Alexandre, 2009). Considering a domain-offensive as well as a domain-defensive approach provides executives with more tentative interpretive guidance and allows them to apply more competing frames to the issue. A more ambidextrous orientation at the group and organizational level enables CEOs to see a wider spectrum of attributes and examine the issue from different angles.

Strategic ambidexterity at the firm level, therefore, makes executives more likely to evaluate strategic issues ambivalently. For example, the CEO of a firm with a singular focus on a domain-offensive strategy may examine EU enlargement primarily in terms of access to new markets, technologies, and products, while the CEO of a firm with a more ambidextrous orientation is more prone to consider additional information and criteria such as threats to the firm's home markets in his summary evaluation. The simultaneous presence of different frames and filters associated with ambidexterity leads us to hypothesize that:

Hypothesis 1: The less a firm's strategic orientation is focused on either domain defense or on domain offense, the more ambivalently the CEO will evaluate the issue.

Related experience

Experience in a related domain generally guides issue interpretation (Denison *et al.*, 1996; Weick, 1995) and influences a person's ability to elaborate on an issue (Eagly and Chaiken, 1998). Through prior engagement with similar issues, organizations develop routines and collective beliefs that shape how managers view information in similar situations (Nystrom and Starbuck, 1984).

Greater related experience increases the complexity of knowledge structures in the issue's

domain, which prompts executives to examine the new issue from diverse angles and arrive at more ambivalent evaluations. For example, greater job specialization in the wake of continued experience may lead members of the organization to apply different frames, collect different information about the issue, and form dissenting views regarding the issue. When the information is channeled to the top, CEOs are exposed to a diverse set of aspects and divergent evaluations of the issue. In contrast, executives of a firm that lacks experience with the issue at hand are likely to fall back on fewer, more generic frames and find it harder to identify contingencies. These managers' assessments are likely to lack nuance, making more univalent evaluations likely. Psychological research supports this link empirically. Hertwig *et al.* (2004) accordingly found that lack of experience may prompt perceptions of the world as less variable and more clear-cut.

The relevant experience domain in our study is a firm's past activities in foreign markets. The EU enlargement in 2004 primarily extends the geographic scope of competition for the firm. We expect executives in an organization with very little experience in international markets to attend to and consider fewer and less diverse aspects of the EU enlargement, thus framing the issue unambivalently as either positive or negative. Managers of firms with more international expertise are more likely to be exposed to a variety of issue aspects and divergent evaluations. Consequently, we hypothesize that:

Hypothesis 2: The greater an organization's international experience, the more ambivalently will the CEO evaluate the issue.

Diversity

Daft and Weick (1984: 285) emphasize that 'upper managers bring together and interpret information for the system as a whole.' What 'the system as a whole' consists of influences the perspectives from which executives examine a strategic issue and the information they will take into account. For example, the heterogeneity of a top management team (TMT) influences a CEO's sense-making about strategic issues because members of the TMT communicate and act on their different beliefs and understandings (Chattopadhyay

et al., 1999). In previous research, increased demographic diversity in teams has been associated with more diverse interpretations (Dearborn and Simon, 1958). Strategy scholars have similarly argued that top managers with different functional specializations have different schemas or frames of reference (e.g., Michel and Hambrick, 1992).

Top managers from different areas notice different information (Starbuck, 1975) and examine a strategic issue from different perspectives (Dearborn and Simon, 1958; Waller *et al.*, 1995). A TMT members' discussion of their more or less heterogeneous understandings of strategic issues such as the EU enlargement influences the CEO's overall evaluation. Different functional responsibilities lead managers to look at the EU enlargement from different angles and a heterogeneous team is expected to attend to a wider spectrum of attributes. The different views and information present in a more functional diverse TMT, increases the likelihood that the CEO develops a more ambivalent evaluation of the EU enlargement.

Hypothesis 3a: The greater the top management team's functional diversity, the more ambivalently the CEO will evaluate the issue.

The presented reasoning concerning the relationship between functional heterogeneity of the TMT and a CEO's ambivalence also applies to the relationship between TMT size and CEO's ambivalence because the size of the team is an important covariate of TMT heterogeneity not tied to functional responsibilities (Carpenter and Fredrickson, 2001). Larger teams tend to be more diverse (Amazon and Sapienza, 1997). We therefore hypothesize that:

Hypothesis 3b: The larger the top management team, the more ambivalently the CEO will evaluate the issue.

Executives also occupy structural positions in subunits that come with diverse role expectations (Merton, 1976). For example, their organization may consist of multiple business units that compete in different industries. Accordingly, top managers in a diversified firm who are faced with market changes are likely to see greater complexity in the situation (Prahalad and Bettis, 1986). They are expected to understand what the issue means for

each of their firm's businesses and examine the issue from the perspective of each business unit (Gilbert, 2006). The diversity of perspectives and the number of aspects that corporate executives examine hinges on the heterogeneity of industries in which the firm operates. Executives of more diversified companies hold more complex mental models, seek information about diverse aspects, and are exposed to business-unit managers who frame the issue from their industry's standpoint (Gilbert, 2006). As a result, we can expect executives of a single-industry firm only to examine the EU enlargement from their primary industry's position, while top managers of diversified firms will scrutinize it for each industry in which their company competes. Accumulating diverse framings and information associated with EU enlargement is then likely to lead to a more ambivalent evaluation overall. We therefore hypothesize that:

Hypothesis 3c: The more diversified the organization, the more ambivalently the CEO will evaluate the issue.

Sense of organizational controllability

Sense of organizational controllability refers to the perception of how much control the organization has over the environment (Wood and Bandura, 1989). Previous research has conceptualized perceptions of organizational controllability and issue valence as two dimensions underlying the labels of threat and opportunity (e.g., Sharma, 2000; Thomas *et al.*, 1993). However, conceptually, the belief that a firm has the necessary capabilities and resources to control an issue affects managers' cognitive processes independent of the issue's valence (Denison *et al.*, 1996; Durand, 2003). Wood and Bandura (1989) found, for example, that perceptions of organizational control often lead executives to develop a sense of personal efficacy and discretion. A sense of organizational control shapes executives' approaches to interpreting issues (Litt, 1988) and the effort exerted to resolve them (Bandura, 1997). It is important to note that control, in this context, refers to the perceived ability of the firm to control an issue, not to the CEO being personally in control. For example, a CEO may simply trust the ability of his or her firm to find effective responses. The effect of organizational control on a CEO's interpretive processing

is thus indirect, via perceptions of collective capabilities.

A sense of organizational controllability affects executives' ambivalence primarily through the effort to seek and frame information. CEOs with a very low sense of organizational controllability limit their efforts to seek detailed information about an issue because they see the outcome as determined by forces beyond their firms' actions. Such executives settle for simpler nonambivalent assessments. This effect of a perceived lack of control in sensemaking is supported by research on decision making (e.g., Friedrich, 1987) and social learning (e.g., Rotter, Chance, and Phares, 1972). As perceived controllability increases, so does the likelihood that the CEO will search widely for information. Work by Hashimoto and Fukuhara (2004) shows, for example, that higher perceived control is related to active information seeking.

However, as an executive's sense of organizational control increases, he or she becomes more confident in the organization's ability to master the issue regardless of other factors. Very high levels of perceived organizational control may lead to overconfidence and disengagement (Stotz and von Nitzsch, 2005). As confidence rises, it begins to impede more contingent understanding of the issue and lead to greater reliance on overlearned information sources, channels, and routines (Miller, 1993). As a result, leaders with very high perceptions of controllability consider only a narrow set of frames and attributes and therefore develop less ambivalent issue evaluations.

We thus expect executives with a very low sense of organizational control over the effects of the EU enlargement to arrive at nonambivalent evaluations. Those with a stronger sense that their firm can control the implications of EU enlargement hold more ambivalent evaluations as they engage with the issue to exercise their limited control. However, at very high levels of perceived controllability, executives increasingly ignore contingencies and employ narrow information search processes. As a result of these countervailing processes, we hypothesize that:

Hypothesis 4: The relationship between the sense of organizational controllability and the ambivalence with which the CEO evaluates the issue is inverse U-shaped.

METHOD

Data and sample

We tested the hypotheses with survey data and secondary data. With the use of a random-factor generator, we selected 800 firms from the Hoppenstedt database.² Consistent with prior research (Chattopadhyay *et al.*, 2001; Thomas and McDaniel, 1990), we focused on the CEO who is most responsible for initiating actions in response to strategic issues (Hambrick and Mason, 1984). We contacted each executive by telephone and asked for his or her participation; 578 managers agreed to participate and, therefore, received the survey instrument by mail. Based on a two-wave mailing process, we received 256 completed questionnaires. Twenty of the received surveys were excluded because they were not filled out by the CEO or were incomplete. Another 16 were excluded because information about the TMT was not available. All in all, the sample of this study consists of 220 questionnaires, representing a 30 percent response rate.

Participating firms had, on average, 217 employees, and ranged from 25 to 10,000 employees. Approximately half of the sampled firms were involved in manufacturing, while the other half were involved in service activities. In order to test for nonresponse bias, we compared responding and nonresponding firms on firm size and age in 2003. The results of a t-test revealed that the two groups were not significantly different regarding these characteristics. We therefore assumed that the data used to test the hypotheses was representative of the sample of firms that we originally asked to participate. Using self-report data, we also sought to address the possibility of common method variance. We analyzed the data with Harman's one-factor test. The results of the unrotated factor analysis showed that no single factor was dominant (Podsakoff and Organ, 1986). Our data, therefore, do not appear to suffer from common method bias.

² The Hoppenstedt database includes data sets of approximately 250,000 German firms that have at least twenty employees or more. The firms included in the database generated more than 85 percent of the value added in Germany in 2008.

Measurement

The research instrument included single questions and multi-item scales with seven-point Likert response formats. We adopted or adapted the scales from previous studies. Originally worded in English, the scales were translated into German by native speakers to avoid possible distortions. The survey instrument was pretested in two steps. First, we directly presented the survey to 10 CEOs from seven different industries. We asked them to examine the face validity of the questions, and to comment on the clarity of the questions and the meaningfulness of the language used in the survey instrument. Based on their feedback, we made minor changes to the questionnaire. Next, we selected 100 firms from the Hoppenstedt database with the use of a random-factor generator. We sent the questionnaire to 74 executives after asking them for their participation. These informants were also asked to comment on the face validity of the questions and to provide feedback about the clarity of the language. Based on the feedback we received from 36 CEOs and the analysis of the pretest data, we made modifications to the survey instrument. The measures used in the final survey instrument and their factor loadings are presented in the Appendix.

Dependent variable

The most widely used and validated measure of ambivalence in the literature of attitudinal and emotional ambivalence is based on the similarity-intensity model (SIM) (Fong, 2006; Priester and Petty, 1996; Thompson *et al.*, 1995). This measure captures the degree to which opposing evaluations of an issue are similar in terms of the amount of opposing reactions (similarity), while also taking into account how extreme the evaluations are in both dimensions (intensity). The SIM has been found to correspond well to subjectively experienced levels of ambivalence under most conditions (Priester and Petty, 1996). Ambivalence is calculated as $A = (D+C)/2 - (D-C)$, where D is the dominant evaluation (here: positive or negative) and C is the competing evaluation (here: positive or negative). We measured the degree of positive and negative evaluations with two items each, adopted from the work of Thomas and McDaniel (1990). The inter-item reliability (Cronbach's alpha) was 0.90 for the positiveness scale and 0.79 for the negativeness scale.

Ambivalence, as measured by this formula, is thus greater when positive and negative evaluations of an issue are about the same and when these evaluations are stronger. In our study, the intensity component means that evaluations of EU enlargement as very positive and as very negative (e.g., 6 or 7 on the positive Likert scale, as well as 6 or 7 on the negative scale) reflect greater ambivalence than evaluations of EU enlargement as not very positive but equally not very negative (e.g., 1 or 2 on the positive, and 1 or 2 on the negative scale). Such 'low-low' evaluations reflect less ambivalence and, perhaps, greater indifference. The similarity dimension of the formula implies that scores such as 4 on the positive and also 4 on the negative scale reflect higher ambivalence than scores of 6 on the positive and 2 on the negative scale. Such 'high-low' evaluations reflect less ambivalence and more singular evaluations. Our measure therefore discriminates between ambivalence and both univalent and weak or indifferent evaluations.

To correct for different means on the two scales due to the social desirability of positive evaluations, we standardized the raw scores on each dimension prior to creating the measure. As a robustness check, we also calculated ambivalence variables using the raw scores rather than standardized scores. All the reported substantive results hold for this alternative variable in terms of significance levels and direction of coefficients, although some effects were slightly weaker.

Independent variables

Strategy

The six items measuring firm strategy were adapted from the work of Thomas and McDaniel (1990), based on the strategy framework of Miles (1982). We reworded the items in order to apply them to the companies of the various industries in our sample; originally, the items were framed for hospitals (Thomas and McDaniel, 1990). Higher scores indicate a more domain-offensive strategy. One item was eliminated due to its low factor loading. The scale has a coefficient alpha of 0.88.

International experience

The three items measuring a firm's international experience were based on the work of Sullivan (1994) and Zou and Cavusgil (2002). We coded

the items such that higher scores indicate greater international experience for the organization. The scale has a coefficient alpha of 0.88.

Sense of organizational controllability

We used three items to measure the extent to which CEOs thought the strategic issue was under the control of their firm. These items were adapted from the work of Thomas and McDaniel (1990). The coefficient alpha for the scale is 0.89.

TMT characteristics

Information about the size and the functional diversity of the TMT was collected for members of the 2004 TMT of each firm as listed in the Hoppenstedt 2004 database. The database provides information about TMT membership and about the members' functional responsibilities as reported by the companies. To validate the information, we randomly chose 50 firms from our sample and contacted the head of each company. Thirty-nine directors could be reached by phone. All of them confirmed the information that we collected from the Hoppenstedt database. Three directors were succeeded by their sons who had worked for the firm before and who also confirmed the information provided in the Hoppenstedt database. Two firms had gone out of business. Six directors could not be reached.

We used categories used in previous research for classifying the functional background of executives (Carpenter and Fredrickson, 2001; Michel and Hambrick, 1992; Wiersema and Bantel, 1992): marketing, distribution, sales, research and development, production, engineering, finance and accounting, law, or general. Because many firms also listed purchasing as a primary background, we also included this category. The top manager was classified by functional background where possible, and otherwise as general manager. We calculated the degree of heterogeneity using Blau's (1977) index. This index is calculated as,

$$1 - \sum_{i=1}^N p_i^2,$$

where p_i is the proportion of the total team that each functional category represents. The higher the resulting score, the greater the TMT's functional heterogeneity. We measured the size of the

TMT by using the total number of members of a TMT (Barkema and Shvyrkov, 2007) and used the logarithmic transformation of TMT size in our analyses.

Corporate diversification

Our measure of diversification is based on the number of different industries in which a company operates. We obtained each company's industries from the Hoppenstedt database, which used the European Classification of Economic Activities (NACE) system. NACE categories are five-digit classifications, comparable to the North American Industry Classification System (NAICS). We created a count variable of the number of five-digit industry groups in which the firm reported activities. As almost half of the sampled firms operated in a single industry, we created a binary variable, taking the value 0 for single industry firms and 1 for diversified firms. The five-digit level provides a meaningful measure of narrower markets that may be subject to different environmental dynamics, such as the publishing of books (NACE 22211) and sound recordings (NACE 22214). We replicated our analysis with variables created at the four-, three-, and two-digit level, and found results weaker as industry classifications broadened.

Control variables

We used two types of controls: variables associated with the vulnerability of a firm to EU enlargement and alternative factors that might directly affect ambivalence. The former variables are important because CEOs of firms that are more affected by the event are motivated to investigate the issue from different angles to gain a better understanding of it.

Vulnerability related controls

Firm size and resources. Executives of firms with abundant resources might not engage in increased information search because they might believe that their resources will buffer them from possible risks associated with an issue and allow them to seize opportunities as they come. Very high levels of resources might therefore limit these managers' effortful sensemaking and thus the likelihood of ambivalent interpretations. We included two variables that have been associated with the buffering

effect of resources: firm size and slack resources (Audia and Greve, 2006; Bourgeois, 1981). Using data from the Hoppenstedt database, we measured firm size as the number of all full-time employees. The variable was normalized using the natural logarithm. We distinguished available and recoverable slack resources (Wiseman and Bromiley, 1996). We used a scale developed by Chattopadhyay and his colleagues (2001) to measure a firm's available slack resources. The coefficient alpha for this scale was 0.76. We created a new four-item Likert scale with the use of past research and commonly accepted theoretical definitions (Bourgeois, 1981; Singh, 1986) to measure recoverable slack resources. Higher scores indicate lower levels of slack resources. This scale had a coefficient alpha of 0.84.

Industry. We examined controls for the economic sector of a firm's primary activity and for its narrower industry membership, both of which may be associated with the relative impact of EU enlargement on the firm. For example, manufactured goods have traditionally had a higher exposure to international markets than services. Therefore, we included a dummy variable to indicate whether the firm was primarily engaged in manufacturing (0) or service (1). In addition, we tested dummy variables for each industry represented in the sample, based on firms' NACE codes. As our sample contained NACE classifications with only few observations, including the full set of dummy variables would have reduced the degrees of freedom for detecting substantive effects within those categories. As a preliminary step, we therefore tested which industry dummies had significant effects on ambivalence, net of other included control variables, and included only those in the main analyses that did. Only non-metallic mineral products and construction showed significant effects and included a sufficient number of observations.

Location. We included two variables for the location of the firm. Firms in the former German Democratic Republic (GDR) are geographically closer and more connected historically to the Central European countries that joined the EU in 2004 than companies from the former Federal Republic of Germany (FRG). We used a dummy variable that indicated whether the firm was headquartered in the territory of the former FRG (1) or the territory of the former GDR (0). We also controlled for

the (logged) size of the town in which the company was headquartered. Firms located in major population centers may serve a comparatively larger local market and therefore be less exposed to economic consequences associated with the EU enlargement, or may alternatively be more connected to international issues. We collected the population size of towns from the Web database of the German Federal Statistical Office.

Perceived environmental munificence. Perceived munificence reflects managers' perceptions of an industry environment supportive of sustained growth (Sutcliffe and Huber, 1998). CEOs with this perception are likely to see their firm's environment as supportive enough to overcome possible adversity associated with the EU enlargement and are less likely to scrutinize the implications of the event. We measured perceived munificence with a seven-item scale adapted from previous work (Sutcliffe and Huber, 1998). Two items were eliminated due to low factor loadings. The coefficient alpha for the scale is 0.83.

Ambivalence related controls

Firm age. We controlled for the age of a firm because over time firms develop more fine-grained and more diverse perceptual filters. Managers of older firms might therefore be exposed to more diverse information about the EU enlargement and as a result develop more ambivalent evaluations. We measured the age of the firm as the natural logarithm of years since founding. We obtained firm age from the Hoppenstedt database.

Firm performance. A firm's financial performance may bias evaluations of specific events to the extent that performance levels provide a general evaluation of the firm's situation. We used a subjective measure of performance due to the lack of archival performance measures. Prior research suggests that perceptual measures of performance tend to correlate strongly with archival measures (Venkatraman and Ramanujam, 1987). The two items measuring firm performance were adapted from previous work (Venkatraman and Ramanujam, 1987) and asked respondents to rate their company's sales growth and profitability (return on assets [ROA], return on investment [ROI]) relative to their main competitors. The coefficient alpha for the scale was 0.79.

Perceived environmental instability. In less stable environments, executives are likely to lack the time and the cognitive resources to investigate a strategic issue further. Too many issues may demand executives' attention at the same time in turbulent environments (Eisenhardt, 1989). As a result, more ambivalent interpretations may become less likely in these environments. We controlled for the perceived instability of the environment with an eight-item scale adapted from Sutcliffe and Huber (1998). Higher scores indicate perceptions of greater stability. We eliminated four items due to low factor loadings. The coefficient alpha for the scale is 0.58.

ANALYSIS AND RESULTS

We verified the factor structure of the survey measures using principal axis factoring with oblimin rotation. We found strong support for the 10-factor structure suggested by the included measures. In particular, the items used to measure positive and negative evaluations loaded onto two factors as expected. The Appendix shows all survey items and factor loadings.

Test of hypotheses

We tested the hypotheses with a series of regression models. We examined residual plots for all variables in the regression equations and found no major violations of distributional assumptions. Variance inflation statistics indicated that multicollinearity was not an issue. Plotting the data and statistical analysis (Shapiro-Wilk test) also showed that our dependent variable was normally distributed. To obtain correct standard error estimates and accurate significance tests in the face of possible heteroskedasticity, all models report robust standard errors using the Huber-White correction (Gujarati, 1995: 379–383). Table 1 shows descriptive statistics. The results of the regression analysis are shown in Table 2.

We first regressed ambivalence on the control variables associated with firms' vulnerability toward EU enlargement (Table 2, Model 1). Next, we entered ambivalence related control variables (Model 2). We then entered the measures of size and functional heterogeneity of the TMT, corporate diversification, international experience, and the linear terms of strategy orientation and

sense of control to obtain estimates of their main effects (Model 3). Finally, we entered the quadratic terms for the latter two variables to test for nonlinear relationships (Model 4). In creating the quadratic terms, we mean-centered the variables before squaring them.

In Hypothesis 1, we expected an inverse U-shaped relationship between strategic orientation and ambivalence. This expectation was confirmed as the quadratic term of the variable is significant and negative while the main effect was marginally significant (Model 4). We performed simple slope analyses (Aiken and West, 1991) to establish whether both sides of the inverted U were significant and in opposite directions at two standard deviations from the mean. The results of the analysis ($p < 0.018$ in both cases) suggested that clearly domain-offensive and domain-defensive orientations reduced ambivalence. In Hypothesis 2, we predicted a positive relationship between a firm's international experience and ambivalence. In Hypotheses 3a, 3b, and 3c, we predicted a positive relationship between diversity-related variables and ambivalent evaluations. These hypotheses were not supported. Hypothesis 4, which suggested an inverse U-shaped relationship between a sense of organizational control and ambivalent evaluations, was supported. The quadratic term of the variable is significant and negative while the main effect was nonsignificant. Simple slope analyses again confirmed that both very high and very low levels of perceived control reduced ambivalence ($p < 0.004$ in both cases). With regard to our control variables, we found that the perceived instability of the environment has a positive relationship with ambivalence. In addition, we found a marginally significant negative relationship between low discretionary slack resources and ambivalence in the full model (Model 4).

Figure 1 plots significant relationships using the coefficient estimates from Model 4. An ambidextrous strategic orientation and a moderate sense of organizational control are associated with the highest level of ambivalence about EU enlargement.

Robustness checks

We conducted a series of further analyses to verify the robustness of our findings and to substantiate their interpretation. First, we tested our hypotheses in separate models that included only the controls and the independent variables related

Table 1. Means, standard deviations, and correlation coefficients

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Ambivalence of issue evaluation	0.66	1.39																				
2. Strategic orientation	4.82	1.27	0.00																			
3. Strategic orientation ²	1.62	2.12	-0.14	-0.44																		
4. International experience	3.23	2.00	0.17	0.35	-0.17																	
5. TMT size (logged)	0.97	0.55	0.04	0.11	0.00	0.15																
6. Functional heterogeneity	0.54	0.27	0.05	0.07	0.03	0.12	0.89															
7. Diversified company (binary)	0.26	0.44	0.02	0.00	-0.01	0.09	0.06	0.05														
8. Sense of control	4.65	1.51	0.21	0.24	-0.14	0.36	0.23	0.20	0.04													
9. Sense of control ²	2.28	2.89	-0.29	-0.11	0.09	-0.24	-0.11	-0.11	-0.12	-0.41												
10. Firm age (logged)	3.47	0.99	-0.02	-0.09	0.07	0.07	0.05	0.07	0.07	-0.18	-0.06	0.05										
11. Financial performance	4.62	1.08	-0.01	0.33	-0.08	0.18	0.12	0.12	0.03	0.27	-0.09	-0.06										
12. Perceived instability	4.13	1.14	0.11	0.13	0.11	0.10	0.03	0.08	-0.02	-0.06	0.09	-0.04	0.05									
13. Firm size (logged)	4.45	1.03	-0.04	0.15	-0.08	0.16	0.32	0.22	0.01	0.21	0.14	0.03	0.28	0.14								
14. Recoverable slack resources	5.03	1.18	-0.15	0.21	-0.08	0.14	0.02	-0.01	0.02	0.18	0.00	-0.13	0.12	-0.02	0.05							
15. Available slack resources	3.70	1.70	0.01	0.19	-0.08	0.09	0.19	0.18	-0.01	0.16	-0.01	0.19	0.26	-0.04	0.15	0.02						
16. Location (1 = former FRG)	0.88	0.33	-0.04	0.01	-0.03	0.04	0.08	0.09	-0.07	-0.01	0.04	0.37	-0.04	-0.16	0.06	-0.03	0.12					
17. Economic sector (1 = service)	0.51	0.50	-0.01	-0.11	0.04	-0.31	0.00	0.01	-0.01	0.03	0.01	-0.17	-0.03	-0.08	0.06	-0.02	-0.06	0.03				
18. Perceived environmental munificence	3.40	1.21	0.15	0.30	-0.16	0.29	0.14	0.04	0.09	0.32	-0.20	-0.13	0.24	0.17	0.22	0.12	0.10	-0.08	0.01			
19. Number of inhabitants (logged)	10.43	2.14	-0.06	0.01	0.08	0.06	0.13	0.11	0.10	0.14	0.00	0.02	-0.06	-0.05	0.12	0.07	0.01	0.25	0.29	0.07		
20. Industry=non-metallic mineral products	0.02	0.13	-0.10	-0.09	0.00	0.07	-0.01	-0.03	-0.08	-0.09	0.03	0.06	-0.02	0.04	-0.05	-0.08	-0.04	0.05	-0.14	-0.11	-0.05	
21. Industry=construction	0.11	0.32	-0.29	-0.10	0.07	-0.33	-0.15	-0.11	-0.08	-0.33	0.23	-0.01	-0.14	0.03	-0.15	0.04	-0.07	-0.04	-0.05	-0.37	-0.13	-0.05

N = 220. > 0.18 are significant at p < .01, > 0.14 significant at p < 0.05.

Table 2. OLS regression estimates
Dependent variable: ambivalence of issue evaluations

	Model 1	Model 2	Model 3	Model 4
Constant	-0.227 (0.420)	-0.688 (0.528)	-0.665 (0.543)	-0.406 (0.534)
Firm size (logged)	-0.087 (0.055)	-0.105† (0.057)	-0.111† (0.06)	-0.075 (0.060)
Recoverable slack resources	-0.093* (0.046)	-0.084† (0.046)	-0.101* (0.047)	-0.087† (0.046)
Available slack resources	0.002 (0.032)	0.006 (0.033)	0.002 (0.034)	0.007 (0.033)
Location (1 = former FRG)	-0.058 (0.169)	-0.028 (0.181)	-0.005 (0.182)	-0.025 (0.177)
Economic sector (1 = service)	-0.047 (0.111)	-0.021 (0.113)	0.014 (0.12)	-0.010 (0.117)
Perceived environmental munificence	0.058 (0.049)	0.044 (0.050)	0.026 (0.053)	0.015 (0.051)
Number of inhabitants (logged)	-0.027 (0.027)	-0.026 (0.027)	-0.035 (0.027)	-0.019 (0.027)
Industry = non-metallic mineral products	-0.791* (0.396)	-0.845* (0.395)	-0.849* (0.401)	-0.883* (0.389)
Industry = construction	-0.728*** (0.179)	-0.772*** (0.180)	-0.626*** (0.190)	-0.594** (0.185)
Firm age (logged)	0.022 (0.061)	0.008 (0.063)	0.017 (0.061)	
Financial performance	-0.011 (0.054)	-0.027 (0.056)	-0.010† (0.055)	
Perceived instability	0.111* (0.049)	0.116* (0.051)	0.136** (0.049)	
Strategic orientation		0.081 (0.042)	-0.095† (0.051)	
Strategic orientation ²			-0.064* (0.027)	
International experience		-0.043 (0.048)	0.023 (0.032)	
TMT size (logged)		0.036 (0.033)	-0.009 (0.219)	
Functional heterogeneity		0.001 (0.226)	0.056 (0.436)	
Diversified company (binary)		0.058 (0.449)	-0.061 (0.121)	
Sense of control		-0.025* (0.124)	0.028 (0.044)	
Sense of control ²			-0.060** (0.021)	
Model F value	3.796***	3.325***	2.589**	3.190***
R-square	0.145	0.168	0.195	0.251
Adjusted R-square	0.107	0.117	0.120	0.173
Change in F over Model 2			1.098	2.655**

N = 220. Standard errors are in parentheses.

†p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001; two-tailed tests.

to each hypothesis. This also allowed us to assess the amount of variance accounted for by each hypothesized antecedent individually. These analyses fully confirmed the results from the main analysis.

We performed two supplemental analyses to verify our interpretation of the findings regarding the two dimensions of ambivalence: intensity and similarity. Based on the SIM model described above, we would expect that the examined contextual

factors predict 'true' ambivalence at more intense evaluations, but not 'indifference' at low-intensity valuations. The theory behind the SIM model also suggests that the examined contextual factors predict ambivalence better when the positive and negative evaluations of the EU enlargement are very similar. To verify these expectations, we first split the sample at the mean of the intensity of evaluations: the extremity of the combined positive and negative scores (mean=2.88). We replicated our analyses in both subsamples and found that our main results held for the observations above the mean ($N=116$), but not for the ones below the mean ($N=104$). Next, we split the sample at the mean of the similarity of evaluations: how much negative and positive evaluations deviate from each other (mean= -2.27). Replicating our analyses in both subsamples, we found that our main results held for the observations above the mean ($N=100$), but not for the ones below the mean ($N=120$). A replication of the analyses with a sample split at the median provided the same results. In sum, these analyses support our main results concerning the antecedents, with the SIM measure of ambivalence as the dependent variable.

Based on the argument that led to the inclusion of the vulnerability controls in the test of the hypotheses, we performed another analysis and used information about how important CEOs perceived the EU enlargement because perceived importance may influence the attention given to the issue. The response format for the single item was 1, 'of very little importance,' to 7, 'of very large importance.' This information was available for a subset of respondents ($N=101$) because data on the interpretation of EU enlargement were collected as part of a larger research project. Entering the perceived importance of EU enlargement in our models in this smaller subsample did not alter the findings reported in the main analyses. We also did not find a direct relationship between perceived issue importance and ambivalence.

DISCUSSION AND CONCLUSION

Despite the importance of executives' ambivalence for strategic sensemaking, a systematic discussion or an empirical analysis of how organizational context influences such ambivalence has been lacking (Gilbert, 2006). Our study addresses these gaps.

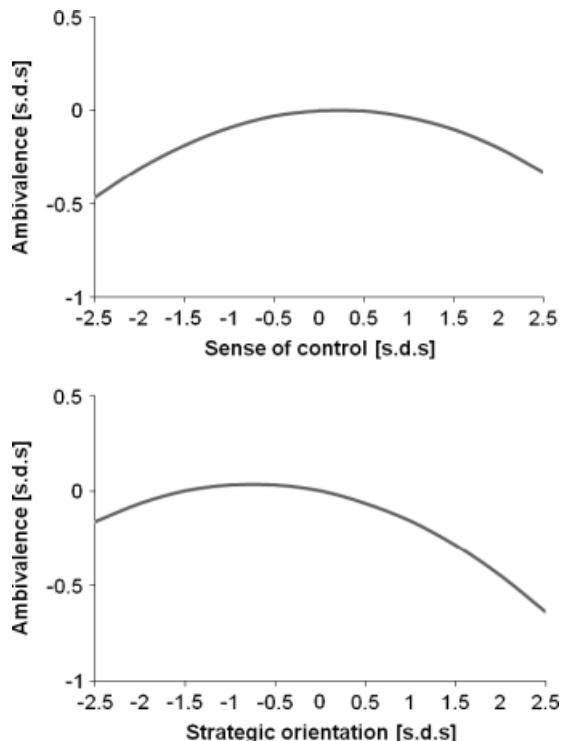


Figure 1. Relationships between ambivalence and strategic orientation and controllability.

We provide a theoretical account of how organizational context may lead CEOs to develop an ambivalent evaluation of a strategic issue by combining insights from psychological research on ambivalence with research on strategic issue diagnosis and organizational sensemaking. In addition, we add empirical support for the relevance of the firm's context for developing ambivalent evaluations. We find that CEOs of firms with a more ambidextrous strategic orientation and a moderate sense of control over their environment are most likely to develop ambivalent issue evaluations. This supports our general expectation that organizational characteristics that supply diverse perspectives in domains associated with an issue, and that attribute moderate agency to the firm in relation to its environment, foster effortful sensemaking and prompt ambivalence at the executive level. Organizational characteristics that are less domain specific, such as TMT functional diversity and corporate diversification, appear to be less potent antecedents.

This study contributes to recent research on strategic sensemaking (Barr and Glynn, 2004; Julian and Ofori-Dankwa, 2008), as well as to the

growing literature on mindfulness and creativity in organizations (Fiol and O'Connor, 2003; Levinthal and Rerup, 2006; Weick and Sutcliffe, 2006). First, it clarifies the effect of organizational characteristics on how CEOs evaluate strategic issues, and thus tests the role of contextual antecedents of CEO ambivalence. We also specify underlying social and psychological mechanisms that link top executives' context to their strategic sensemaking. Finally, we identify organizational intervention points for fostering the qualities associated with ambivalence. We discuss each contribution in turn.

The role of organizational context in executives' ambivalence toward strategic issues

Our findings clarify the link between strategy orientations and executives' interpretations of events. Prior research predicted a firm's strategic orientation as domain offensive or defensive to lead to the interpretation of issues as positive or negative, but failed to find empirical support (Thomas and McDaniel, 1990). We instead argue and find that a more ambidextrous strategic orientation translates into more ambivalent issue evaluations at the individual level of top executives. Executives at firms that lack strategic ambidexterity are less likely to develop ambivalent interpretations.

Our study also advances research on the consequences of organizational sense of control (Denison *et al.*, 1996; Durand, 2003). We find that a moderate sense of organizational control is associated with CEOs seeing new strategic issues in more ambivalent ways. The effort to understand more aspects of an issue increases with perceived organizational control, but at very high levels of perceived control confidence may lead to narrower perceptions and reliance on less complex knowledge structures so that interpretations are less ambivalent.

Interestingly, we find no support for our hypothesis that higher levels of international experience are related to more ambivalent interpretations. A possible explanation is that experience in this domain may not lead to more complex knowledge structures, but may rather lead issues in the domain to appear more positive due to greater feelings of competence. Although they did not directly assess ambivalence, Denison *et al.* (1996) accordingly found that more international experience led

to positive interpretations of foreign direct investment.

Finally, our findings do not support the hypotheses that general diversity at the group or organizational level is related to CEOs' ambivalence. It could be that executives of diversified firms perceived the EU enlargement as having similar effects for different business units. Consistent with previous research, we also expected functional diversity of the TMT to be associated with cognitive diversity and thereby be a precursor of ambivalent interpretations. It may be that the effect of functional responsibilities on the cognition of TMT members is generally weak (e.g., Chattopadhyay *et al.*, 1999), or that top managers adopt views consistent with their roles as members of the TMT rather than the functional area they represent. Kilduff, Angelmar, and Mehra (2000), for example, did not find a relationship between functional heterogeneity and cognitive diversity. Future research may reexamine our diversity-related hypothesis with direct measures of cognitive diversity of the TMT.

In our analysis of antecedents of ambivalence, we followed the call of Julian and Ofori-Dankwa (2008), who emphasized the importance of examining broad and ill-defined issues because such issues match scholarly conceptualizations of strategic issues (e.g., Dutton *et al.*, 1983) and are important for organizational environments. Denison *et al.* similarly pointed out that strategic issues associated with the global business environment are central because they 'are highly salient and require action, but are poorly understood' (Denison *et al.*, 1996: 468). Future work on strategic issue diagnosis should, however, also investigate executives' parallel interpretation of multiple strategic issues. For example, does strategic ambidexterity lead CEOs to evaluate all strategic issues in ambivalent ways no matter how many other issues demand attention? Other questions arise regarding the temporal dynamics of sensemaking and ambivalence: is ambivalence a permanent or temporary interpretive state, and do oscillations between positive and negative evaluations follow the same pattern as fully parallel evaluations?

Intervention points for top executives' ambivalence

Our examination of how contextual factors trigger ambivalent evaluations informs research on other

antecedents. Interpretive predispositions may originate at the individual, organizational, and environmental level, including personal and organizational identities that clarify positions (Ashforth and Mael, 1989; Dutton and Dukerich, 1991), exposure to turbulent industries and turbulent team membership that keep experience and tradition from accumulating (Eisenhardt, 1989), or ideologies embedded in organizations that provide norms and beliefs (Dutton and Dukerich, 1991; Prahalad and Bettis, 1986). In addition, culture may affect the prevalence of ambivalent evaluations. Cross-cultural research has emphasized, for example, the influence of East Asian and Western cultures and related philosophical backgrounds on the tolerance for ambivalent affective evaluations (Bagozzi, Wong, and Yi, 1999; Nisbett, 2003).

Our study suggests ways to foster organizational mindfulness and exploration through the ambivalence of top managers. The propensity of executives to see issues in an ambivalent light can be increased through interventions aimed at organizational processes and cultures. Companies can foster a culture of humility that prevents perceptions of high organizational control, and they can refrain from forging dogmatic and one-sided strategies or identities.

CONCLUSION

The importance of leaders' ambivalence for strategic change, mindfulness, and exploration in organizations has been highlighted and empirically demonstrated by a growing number of organizational scholars. But sources of ambivalence have often been elusive or highly contingent. Our findings provide a larger systematic test of organizational conditions under which ambivalent interpretations are likely. Our study not only documents the contextual nature of ambivalent interpretations, it also suggests ways for firms to influence ambivalence in strategic sensemaking.

ACKNOWLEDGEMENTS

We are extremely grateful to Editor Richard A. Bettis for his encouragement and support throughout this project. We thank the two reviewers of *SMJ* for their constructive comments and suggestions. We also thank Pamela Barr, Rodolphe

Durand, Christina Fong, William Ocasio, Kathleen Sutcliffe, and Tim Vogus for valuable earlier comments.

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APPENDIX: MEASURES^a AND ITEM LOADINGS

Construct	Operational measure	Factor loading
Positive interpretation	To what extent do you agree with the following statements?	
1	Our company will benefit from the EU enlargement.	0.73
2	The EU enlargement comprises a potential gain for our company.	0.76
Negative interpretation	To what extent do you agree with the following statements?	
1	The EU enlargement is something negative for our company.	-0.74
2	There is a high probability of losing a great deal because of the EU enlargement.	-0.81
Controllability interpretation	To what extent do you agree with the following statements?	
1	Our company can manage the changes resulting from the EU-Enlargement.	0.81
2	The EU-enlarge is something controllable for our company.	0.83
3	Our company has the capability to address the EU-enlarge.	0.86
Strategic orientation	To what extent do you agree with the following statements ? Our company...	
1	always tries to be the first in the industry to offer new solutions.	0.87
2	is usually among the first users of new product design technologies.	0.79
3	always endeavors to develop new products.	0.83
4	responds rapidly to early signs of market opportunities.	0.78
5	has a product portfolio which is constantly growing.	0.62
Firm's international experience	To what extent do you agree with the following statements?	
1	A high percentage of our sales is generated outside of Germany.	0.82
2	Our company cooperates with various foreign trading partners.	0.87
3	Our company has got a lot of experience in selling to foreign markets.	0.81
Firm performance	In our primary business our company performs (1, 'much worse than our competitors,' 7, 'much better than our competitors') with respect to...	
	Sales growth.	0.87
	Profitability (e.g., ROI, ROA, etc.).	0.87

APPENDIX (continued)

Construct	Operational measure	Factor loading
Available slack resources	To what extent do you agree with the following statements in reference to your company's resources?	
1	Our company keeps in general high levels of financial resources (e.g., cash, short-term credit) in order to assure a steady flow of production.	0.88
2	Our company has easy access to these financial resources for growth and expansion.	0.85
Recoverable slack resources	To what extent do you agree with the following statements?	
1	Employees for executive tasks work at full capacity in our company.	0.84
2	Trained employees work at full capacity in our company.	0.89
3	Resources (e.g., research and development, logistics...) are fully utilized in our company.	0.83
4	The production capacities work at full capacity in our company.	0.68
Perceived munificence	To what extent do you agree with the following statements? In our industry... demand is growing and will continue to grow. the investment and sales opportunities are very favorable at the present time.	0.82
2		0.84
3	sales have been growing are likely to grow.	0.80
4	the total value of assets for the firms are declining and will continue to decline.*	0.57
5	the capital expenditures of the firms are growing and will continue to grow.	0.66
Perceived instability	To what extent do you agree with the following statements?	
1	Customer demand and preferences change very little in our industry from year to year.	0.67
2	Our company must frequently change the way it produces its goods/services in order to stay competitive.*	0.53
3	The actions of our major suppliers change very little from year to year.	0.66
4	The volume of sales for firms in our industry fluctuates very little from year to year.	0.74

^a The response format for all items was 1, 'small extent,' to 7, 'large extent' (indicated were not applicable).

* = reverse coded.

For clearness of the table, factor loadings below 0.4 are not reported.