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# A multiple climates approach to understanding business unit effectiveness

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## Abstract

We propose four theoretically competing climates that are important for business-unit performance: climates for external control, internal control, internal flexibility, and external flexibility. Using a sub-sample of 620 business units from multiple companies across different industries and countries, we identified mechanisms by which climates influence business performance, accounting for different stakeholder interests. Climate for external control related directly to perceived business performance; climates for external flexibility and internal control both related to customer loyalty, which in turn predicted perceived business performance. Importantly, we show the moderating role of context whereby climate for internal flexibility was positively associated with perceived business performance, but only when market volatility was high. Drawing on the notion of ambidexterity, business units with higher effectiveness measures for all stakeholders also had high levels of all four climates, concurrently. The study supports the value for organizational effectiveness of having multiple climates that collectively accommodate an internal- and external-focus, as well as control and flexibility.

## Keywords

ambidexterity, business performance, business-unit climate, employee perceptions, engagement, job design, job/employee attitudes, organizational climate, paradox, perceived customer loyalty

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## Introduction

Understanding the links between climate and performance at the organizational or sub-unit level has attracted the attention of scholars for more than half a century (Abbey and Dickson, 1983; Lewin et al., 1939; Rousseau, 1988; Ryan et al., 1996; Schneider, 1975). As Ostroff and Bowen (2000) propose, climate, the shared perception of the work environment, is a key factor that establishes whether people in the organization will enable the organization to achieve a competitive advantage. However, evidence for this link remains limited (Gelade and Gilbert, 2003; West et al., 1998) and the literature has become fragmented (Kuenzi, 2009). Few studies have tested a comprehensive model within a single analysis (Schneider et al., 2005) and the underlying mechanisms by which climate relates to organizational performance are not well established (Delery, 1998; P M Wright and Gardner, 2003). Central to these issues is that most studies fail to recognize that both climate and organizational effectiveness are multidimensional. The aim of this article is to investigate the relationship between four theoretically-derived types of business-unit climate and business-unit performance. Theoretically, our approach recognizes the importance of multiple, 'competing' climates working together in a complementary way to bring about different intermediary effectiveness outcomes (staff engagement and customer loyalty) and, ultimately, business unit performance. Previous studies have rarely investigated the effects of more than one climate on organizational effectiveness at the same time, which means we have little sense of their relative, incremental or complementary value; nor have prior studies typically considered multiple effectiveness outcomes that reflect the needs of multiple stakeholders. Importantly, we assess whether the relationship between climate and performance is moderated by the wider context (market volatility). This latter goal recognizes the role of context in shaping what works for organizations, and offers a way to reconcile previous inconsistent findings. Ultimately, our study findings can provide a point of leverage for improving business unit effectiveness.

It is important to note that climate is a group-level concept; only when individuals agree on their perceptions of the environment can those perceptions be meaningfully aggregated to represent organizational or unit climate (Kozlowski and Klein, 2000). Employees' climate perceptions are most likely to be shaped by their immediate context (Schneider, 1975). For this reason, our focus is on climate within business units, which is often considered the optimal level for assessing links between climate and outcomes because it can exhibit more meaningful relations than distal levels or loosely coupled units (Klein and Kozlowski, 2000).

## Climate and higher-level outcomes

Despite much research on climate, we know little about how multiple climates might work together to influence business-unit outcomes. To date, most climate studies have focused on how climate affects individual outcomes. For example, a meta-analysis by Carr et al. (2003) showed that various workplace climate dimensions relate to individual job performance. However, individual-level findings do not automatically translate to the unit level. As Gelade and Ivery (2003) suggest, important organizational behaviors (e.g. team work, social loafing) exist just at the unit-level, and many indicators of

performance (e.g. customer satisfaction) make sense only at the group level. Likewise, antecedents of group outcomes will differ from individual-level outcomes. Several scholars (e.g. Kozlowski and Klein, 2000; Schulte et al., 2006) have urged for more studies at the group-level of analysis.

Group-level studies that do exist suggest that climate relates to unit or organizational performance, but leave several questions unanswered. Much important work in the area has focused on a service climate, associating it with customer satisfaction (Johnson, 1996; Schneider et al., 1998), sales performance (Borucki and Burke, 1999), or other business performance measures (Ryan et al., 1996). Other investigations have focused on outcomes relevant to particular industries, such as education (Ostroff, 1992; 1998) and manufacturing (Abbey, 2005). A different research stream, including work on the Service Profit Chain (Heskett et al., 1997) and linkage research (Wiley and Brooks, 2000), shows that perceptions of the employee environment relate to customer satisfaction, which in turn relate to profits.

Notwithstanding the contributions of this accumulating body of evidence, the use of a wide array of climate variables and methodological concerns<sup>1</sup> (e.g. Gelade and Gilbert, 2003) make it difficult to integrate findings and draw general conclusions. In part, this diversity reflects the trend to focus on a 'climate-for-something', such as a climate for service (Schneider et al., 2005), climate for safety (Zohar and Luria, 2005), or a climate for justice (Yang et al., 2007). The climate-for-something approach has the advantage of focus and therefore enhanced predictability. Nevertheless, it makes it difficult to integrate findings across studies, and the way that the climate-for-something approach has been operationalized thus far also does not readily allow for the possibility of multiple climates for something occurring in the same organization (Ostroff et al., 2003).

A further consequence of focusing on specific climates is that researchers focus on specific outcomes. For example, the climate for safety literature focuses on predicting injuries or accidents, whilst the climate for service literature focuses on customer satisfaction. This approach makes sense for understanding that particular outcome, but is less useful for understanding how climate contributes to overall unit or organizational performance (Nishii et al., 2008; Yang et al., 2007), or for considering how multiple climates for something might have their effects via different effectiveness outcomes. Studies have also tended to investigate only one outcome measure at a time (or a uni-variate composite of outcomes), rather than examining multiple outcomes concurrently. For example, Patterson et al. (2005) examined separate zero-order correlations between several climate dimensions and a range of specific outcomes, arguing that researchers were likely to be concerned with one outcome only. However, as Gelade and Gilbert (2003) demonstrated, separate analyses of specific indicators of performance increase the chance of Type I errors (cf. Ryan et al., 1996). In addition, because of limitations on resources, aspects of effectiveness are unlikely to be independent, making it difficult to draw conclusions about the relationship between a climate-for-something and overall effectiveness. On the other hand, using a single measure of effectiveness by combining all the aspects of relevant performance makes it difficult to determine the contributions of different elements.

In sum, whilst significant progress has been made, it remains relatively unclear what aspects of climate are important for overall business unit or organizational effectiveness. Although current research permits conclusions about how, for example, to enhance

service or safety performance, the evidence base for understanding what climate or climates lead to overall business performance is still limited.

## Approach of the current study

We examine multiple climates simultaneously, and investigate their relationships with three indicators of business-unit effectiveness. Historically, the organizational literature has been replete with divergent perspectives on what makes an organization effective; for example, having an internal versus external focus, or achieving stability versus adapting. While often presented as either/or conditions, recent theoretical developments suggest the value of considering such perspectives simultaneously (Gibson and Birkinshaw, 2004). This idea of contrasting perspectives is captured in Quinn and Rohrbaugh's (1983) competing values framework, which we use to identify four key types of climate. Surprisingly, this framework has rarely been applied to the climate literature.<sup>2</sup> Our approach also draws on multiple stakeholder theory (Donaldson and Preston, 1995), which recognizes that organizations do not pursue a single criterion, but aim to be effective on several dimensions simultaneously (Quinn and Rohrbaugh, 1983). We consider three business unit outcomes: perceived business unit performance, staff engagement, and perceived customer loyalty, reflecting the interests of employers, staff, and customers, respectively.

Quinn and Rohrbaugh's model is a valuable organizing frame for considering climate because it is a meta-theoretical model that, as Zammuto et al. (2000) argue, represents broad managerial ideologies that have emerged over time regarding effective organizations. Ideologies influence actions of managers and the development of practices (Beyer, 1981), and hence are important drivers of climate. From this perspective, multiple climates can be considered as meta-capabilities (Bartlett and Ghoshal, 2002) that allow organizations to balance contradictory needs, and thereby meet the needs of multiple stakeholders. As Buckley's (1968) law of requisite variety states, the variety within a system must be at least as great as the environmental variety against which it is attempting to regulate itself.

Reflecting dilemmas in the literature, Quinn and Rohrbaugh (1983) suggested that organizational outcomes and practices can be sorted according their focus and structure. Focus ranges from an *internal* emphasis on the management of people in the organization to an *external* emphasis at the interface between the organization and the market. Structure ranges from an emphasis on *control* to *flexibility*. Juxtaposing these two dimensions creates four quadrants (internal control, external control, internal flexibility, and external flexibility), each mapping onto perspectives about effectiveness and representing distinct outcomes, or 'ends'. Outcomes relevant to internal control and external control include consistency and achieving organizational objectives, respectively. Outcomes relevant to internal-flexibility and external-flexibility include the development of human resources and growth, respectively.

Quinn and Rohrbaugh further suggested that not only can organizational outcomes be sorted according to these ends, but that practices and processes (the 'means') also map onto these quadrants. For example, practices such as teamwork are congruent with the end of developing human resources in the internal flexibility quadrant. Our approach is to

consider climate as the perception of the ‘means’ (practices) within each quadrant. Thus, we identify a climate for internal-flexibility (shared perception of practices for achieving internal flexibility), a climate for external-flexibility (shared perception of practices for achieving external flexibility), a climate for external-control (shared perception of practices for achieving external control), and a climate for internal-control (shared perception of practices for achieving internal control). Our approach is consistent with recommendations to consider a climate-for-something, with the particular domain of interest representing an ‘end’. However, our climate-for-somethings are broader in scope than the domain-driven studies and are likely to be relevant to all organizations. In theory, the four climates should be comprehensive in their coverage of core organizational perspectives, yet, as reflexive constructs (Chin, 1998), the practices constituting them (described shortly) are not intended to be exhaustive.

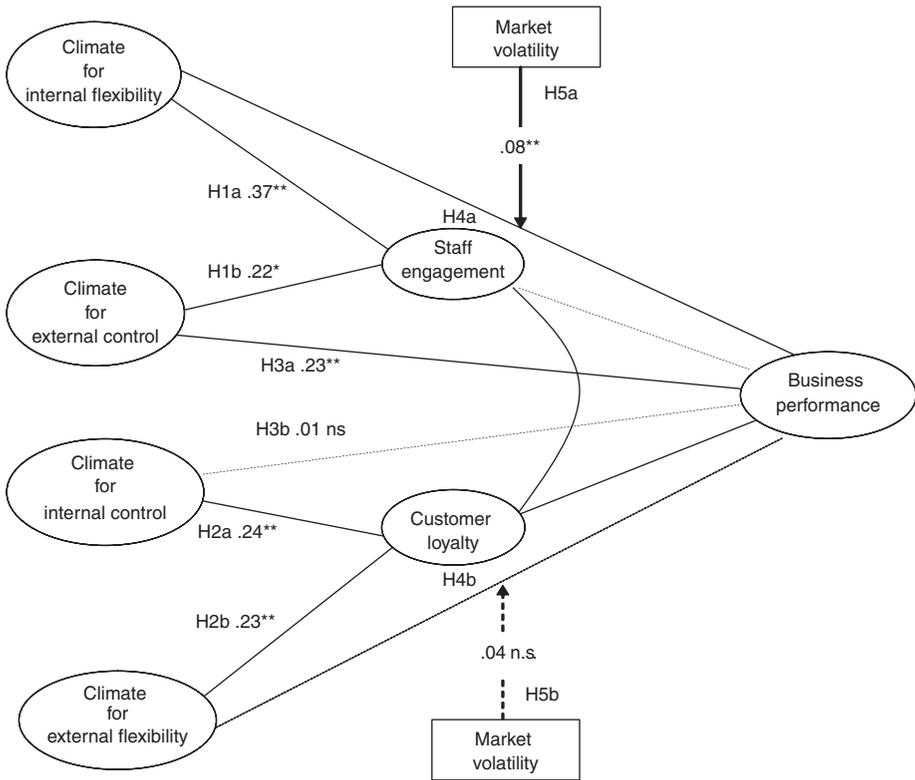
Given their different theoretical orientations, we expect the four climates to be distinct from each other, and to play distinct roles in influencing performance. Nevertheless, we expect these climates to be positively inter-related. As Quinn and Rohrbaugh (1983: 374) suggested:

Although certain pairs of concepts are at opposite locations in the value space and, therefore, are paradoxical in nature, this does not require that they are empirical opposites, mutually exclusive in actual organizational environments. Indeed, an organization might be cohesive and productive, or stable and flexible.

Because the climates are likely to have underlying antecedents in common, such as considerable investment in implementing systems and structures that support the development of the various practices, we expect them to co-occur and therefore be positively inter-related. Case study evidence supports the co-occurrence of practices that reflect both an internal and external focus, and flexibility and control (Takeuchi et al., 2008).

Our application of Quinn and Rohrbaugh’s (1983) competing values meta-theory thus provides a comprehensive approach to considering climate in relation to business effectiveness rather than other more specific outcomes. Importantly, we go beyond the meta-theory proposed by Quinn and Rohrbaugh. First, we suggest the effectiveness mechanisms by which each climate influences overall business performance – via staff engagement or customer loyalty or both. Second we recognize the moderating role of context – market volatility – on the climate-performance relationships. Third, we draw on the theoretical notion of ambidexterity to propose that all of the climates will be important for effectiveness; that it is not a case of ‘either/ or’. Our overall proposed model is depicted in Figure 1.

As indicated in Figure 1, we consider three business-unit outcomes. The ultimate outcome in our model is business-unit performance, which refers to managers’ perceptions of the unit meeting profit targets, market-share targets, and competitive threats, and as such, reflects how well the needs of top management and or owners are met. Business performance is the ultimate outcome in our model because a firm’s survival depends on meeting the business performance requirements of top management and/or owners. We consider staff engagement and perceived customer loyalty as pathways through which perceived business performance can be achieved. Macey and Schneider (2008) defined



**Figure 1** Model of predicted relationships and results of structural equation modeling and hierarchical regressions

Note: Climate correlations are higher as LISREL uses a strict test where the interfactor correlation = 1 (recognizing that the corrected correlations are much higher).

psychological state employee engagement as a broad concept encompassing feelings such as positive affect, pride, satisfaction, and organizational commitment. Drawing on this definition, we define staff engagement as shared staff feelings of morale, job satisfaction, and pride in the business unit. Kopelman et al. (1990) proposed that climate influences organizational productivity because it promotes employees’ cognitive feelings of engagement that lead to attachment and improved individual performance, which in turn enhances organizational performance. Perceived customer loyalty refers to managers’ shared perceptions of customers’ realized satisfaction, such as reflected in re-purchasing behaviors and recommendations and referrals. Scholars (Borucki and Burke, 1999) have suggested that climate enhances productivity through improving customer outcomes.

### Hypotheses

We first suggest the importance of an internally flexible climate for staff engagement. A *climate for internal flexibility* is characterized by internally-oriented practices which foster staff input and teamwork. The focus on employee involvement aligns with the

human relations model (Keeley, 1978) and high involvement models (Parker and Wall, 1998). Practices, or 'means', relevant to this quadrant include teamwork, encouraging employee input (Wright et al., 2003), socioemotional support (Kopelman et al., 1990), valuing employees (Guest, 1997), and perceived supervisory support (Eisenberger, et al., 2002). Drawing on motivation theories, Locke (2002) proposed that the degree to which the work environment allows individuals to fulfill personal values, such as allowing participation in decisions, is an important influence on motivation and engagement. Linkage theory also suggests that organizations that place a high value on involvement practices will produce more intrinsically satisfied employees with pride in their organization (Wiley and Brooks, 2000). From a work design perspective, jobs that allow greater decision-making and autonomy fulfill employee needs for growth and competence, creating feelings of intrinsic motivation and engagement (Deci and Ryan, 1980).

There is good evidence to support these theoretical perspectives. For example, more autonomous jobs enhance employees' job satisfaction, commitment, and motivation (Parker and Wall, 1998). While there can be individual differences in responses to these practices, most staff who feel involved and part of a team experience greater motivation, pride, commitment, and satisfaction (Baumeister and Leary, 1995). We expect that these individual processes aggregate to higher levels such that business units in which staff experience an internally flexible climate will also have staff who are engaged. Thus:

*Hypothesis 1a:* Climate for internal-flexibility is positively associated with staff engagement.

Also important for staff engagement is the motivation provided by an external focus on where the organization is heading. Thus, we expect a *climate for external control* to positively relate to staff engagement. A climate for external control concerns practices that make clear the strategic intent of the organization (external emphasis) with the aim of regulating employees' actions and behaviors to achieve that end (control emphasis). Practices such as clearly communicating the company's mission, conveying how individuals can contribute to the strategy (House et al., 1997), the 'balanced scorecard' (Kaplan and Norton, 1996), and providing feedback on performance, all align behaviors to the external goal. Motivation theory suggests that a clearly communicated mission gives meaning to staff, providing them with economic as well as non-economic reasons why their work is important (Dessler, 1999). Meaning is a key predictor of work motivation and job satisfaction (Spreitzer et al., 1997). Likewise, the shared performance information that is characteristic of a climate for external control shows staff the outcomes of their joint behaviors. Such feedback enables staff to see the impact of working together, which helps to provide a reason for their efforts as well as contributing to a sense of competence (Seibert et al., 2004). These arguments find support in goal-setting theory, control theory, and social cognitive theory, which all identify goals and feedback as critical determinants of motivated behavior (Donovan, 2001). Practices that convey a clear mission also enable individuals to determine more easily the congruence between their own and the firm's values. Consistent with Schneider's (1987) attraction-selection-attrition theory, we would expect that the better able individuals are to assess congruence, the more likely it is that those that stay in the organization, feel motivated and engaged. Aggregated at the business unit level, we hypothesize that:

*Hypothesis 1b:* Climate for external control is positively associated with staff engagement.

In contrast, we expect neither a climate for external flexibility nor a climate for internal control to uniquely predict staff engagement. Although the standards characterizing a climate for internal control can have positive motivational effects because they reduce role ambiguity, they can also infringe on employee autonomy (House and Mitchell, 1974), which is theorized to be an important determinant of engagement and motivation (Deci and Ryan, 1980). Schneider and Rentsch (1988) found that an emphasis on rules and procedures often leads to employee frustration, and Parker (2003) found that lean production practices such as work standardization reduced employees' job enrichment and engagement. Nor do we expect that a climate for external flexibility will relate directly to staff engagement. The emphasis of a climate for external flexibility is on the interests of customers rather than those of staff; therefore there is no reason to expect this link.

Next we consider climate and perceived customer loyalty. Just as we expect that climates fostering staff engagement will have both an internal and external focus, so too do we expect that in responding to customers, the organization has both an internal and external focus. In this case we argue that the external focus towards the customer should emphasize flexibility (climate for external flexibility) while the internal focus towards staff should emphasize control (climate for internal control). Theoretical support for these propositions comes from marketing theory. Parasuraman et al. (1988) identified five behaviors needed to satisfy customers over time – responsiveness, empathy, assurance, reliability, and tangibles. As customer loyalty relies on satisfaction over time (re-purchasing), organizations with practices that promote such behaviors are likely to be associated with customer loyalty.

More specifically, *climate for external flexibility* captures the shared view that the organization fosters practices that flexibly orient the organization to the external environment. This perspective aligns with open systems theory (Yuchtman and Seashore, 1967) and reflects what the marketing literature refers to as 'market orientation' (Narver and Slater, 1990). The 'means' of this climate are reflected in practices such as seeking the view of customers on products or services before introducing them, and frequent reviewing of products or services to meet or determine customer needs. Organizations interpret signals from their environments and translate these into changes (Starbuck, 1971), resulting in adaptability (Kanter, 1983) and responsiveness to the marketplace (Kiresler and Sproull, 1982). By seeking the views of customers, customer needs can be more effectively met because the organization adapts its offerings to meet changed customer preferences, contributing to improving the nature and/or tangibility of the offering. A strong interest in customer feedback communicates 'responsiveness and empathy' towards customers, two of Parasuraman et al.'s (1988) criteria for satisfying customers. Schneider et al. (1988) also identified these as a key to positive customer perceptions. In addition, social network scholars (Granovetter, 1973) suggest that the interaction with customers implied by a climate for external flexibility creates the opportunity to exchange information, in turn building ties and reciprocity. Further, firms that emphasize flexible practices engage in aggressive environmental scanning (Lei et al., 1997), enabling them to better understand customers and meet their changing needs (Hitt et al., 1998).

*Hypothesis 2a:* Climate for external flexibility is positively associated with perceived customer loyalty.

At the same time, in order to deliver effectively to the customer, the internal functioning of the organization's systems and quality control should be stable and aligned, reflecting marketing literatures' emphasis on the need for 'reliability and assurance' (Parasuraman et al., 1988). A *climate for internal control* will therefore also be important for delivering desired outcomes to customers. A climate for internal control captures the shared belief that the organization has practices in place that provide the internal stability necessary for the 'ends' of consistency, uniformity, and internal efficiency. This climate has origins in scientific management principles (Taylor, 1911), Weber's (1964) theory of bureaucracy, and classical management theory (Fayol, 1949). Practices include those that organize and structure activity and that guide behavior, such as establishing clear standards, having simple, aligned procedures, and having formal rules and procedures for co-ordination (Zammuto et al., 2000), resembling Total Quality Management (TQM) practices (such as Deming, 1986), and process management techniques (Adler, 1993). Such practices build customer trust and confidence because they reinforce service dependability and accuracy. These practices can also enhance co-ordination and minimize conflict (Campion et al., 1993), resulting in a positive image of the organization and its offerings. Together these attributes contribute to 'reliability, assurance and a positive impression of tangibles', three further important criteria for service quality (Parasuraman et al., 1988). Within the TQM literature (Deming, 1986), standard practices and clear, consistent procedures are theorized to not only reduce costs and improve quality – key customer satisfaction criteria – but their absence may have a detrimental effect on customers because of the unpredictability of the resulting products and services. We therefore hypothesize:

*Hypothesis 2b:* Climate for internal control is positively associated with perceived customer loyalty.

Next, we propose that all four climates will relate to perceived business performance, either directly or indirectly through their effect on customers and staff. First, we propose the importance of a climate for external control. A climate for external control emphasizes stability in the alignment of organizational behaviors with organizational goals as they relate to the external context. Drawing on goal setting theory (Locke and Latham, 2002) and research on organizational alignment (Powell, 1992), by focusing attention on achieving business outcomes to which employees can commit, less time is wasted on non-core activities, and formalized co-ordination is reduced, thereby lowering costs. Achievement of business performance goals is also more likely when there is a shared picture of where the organization is heading and regular feedback on performance is available (Bassi and McMurrer, 2007). Burke et al. (1996) showed that overall performance ratings of organizations were influenced more by the clarity of purpose in the mission than any other factor tested. Similarly, O'Reilly and Chatman (1986) found that when employees share the organization's goals and values, individuals act to benefit the organization. This leads us to hypothesize that:

*Hypothesis 3a:* Climate for external control will have a positive direct relationship with perceived business performance.

Likewise, we expect that a climate for internal control will have a positive direct relationship with perceived business performance. Drawing on the 'hard' TQM and lean production literature, when work is standardized and variability minimized, the time required to accomplish tasks is reduced (March, 1991) and predictable, if not improved, quality is a likely outcome (Deming, 1986). If employees perceive clearly defined performance standards and aligned procedures, labor and defect costs are likely to be lowered, resulting in greater profit and improved perceptions of business performance. We hypothesize:

*Hypothesis 3b:* Climate for internal control will have a positive direct relationship with perceived business performance.

As well as these direct effects on perceived business performance, we propose all four climates have indirect effects on perceived business performance. Earlier we proposed that a climate for internal flexibility and a climate for external control will positively predict staff engagement (Hypotheses 1a and 1b). Because researchers have argued for decades that having engaged workers leads to positive organizational outcomes (Likert, 1967), we also expect that these climates will also affect business unit performance through staff engagement. Theoretical support for this hypothesis comes from researchers such as George and Brief (1996) who suggest that the feelings of positive affect associated with engagement are also likely to prompt more effort because positive affect leads to greater self-efficacy (Forgas et al., 1990) and optimism biases in the estimation of future events (Seligman, 1991). Engagement is also likely to prompt individuals to set or accept more challenging goals (Locke and Latham, 2002), thus contributing to higher performance. The aggregated effect of engaged employees exerting more effort and engaging in citizenship activities is increased productivity (Gelade and Young, 2005). Moreover, engagement leads to greater attachment and staff retention, which translates into reduced recruitment and training costs (Vandenberg et al., 1999). Consistent with these theoretical predictions, evidence at the unit level suggests that staff engagement links to unit outcomes such as return on assets and profits (Harter et al., 2002; Ostroff, 1992). There is therefore good theory and evidence to support a positive link between staff engagement and perceived business performance. Building on the prior arguments, we therefore suggest:

*Hypothesis 4a:* A climate for internal flexibility and a climate for external control will indirectly influence perceived business performance through their positive association with staff engagement.

We have already argued that climate for internal control and climate for external flexibility will positively predict perceived customer loyalty (Hypotheses 2a and 2b). In turn, we expect that perceived customer loyalty will predict perceived business performance. Much theory and research around the Service Profit Chain has argued that customer loyalty is one of the most important predictors of long-term financial performance

(Heskett et al., 1997). Customer loyalty is about ‘forming stronger, longer-term relationships with customers to ensure the organization’s future productivity and survival’ (Schneider et al., 2000: 31). Since actual purchase decisions are more closely aligned with the intent to repurchase than with customer satisfaction (Smith and Wright, 2004), customer loyalty should positively relate to perceived business performance. Not only do loyal customers make more repeat purchases, they are also a potential base for cross-selling and a source of new ideas for business strategies (Zeithaml, 2001). Christopher et al. (1991) showed that it costs about eight times as much to acquire a new customer as to retain a current one. Other evidence suggests that customer satisfaction and loyalty predict revenue growth and profitability (Pugh et al., 2002) and related performance outcomes (Loveman, 1998). Drawing on the literature above and the trust literature (Ford, 1990), the responsiveness, empathy, reliability, and assurance behaviors fostered by climates for external flexibility and internal control are likely to result in long-term, trust-based relationship with customers. Through the development of such partnerships, customers may be less likely to defect, less price-sensitive, and more willing to recommend and refer others. Expansion of the customer base and reduced cost of sales would positively impact business performance. We therefore expect that:

*Hypothesis 4b:* Climate for internal control and climate for external flexibility will indirectly influence perceived business performance via their positive association with perceived customer loyalty.

We also expect the flexible climates, climates for internal flexibility, and external flexibility, to relate directly to perceived business performance, but only in the case of high market volatility. Drawing on a central theme in the strategy and organizational design literatures, we consider environmental uncertainty as an important boundary condition for the relationship between climate and business performance because of its effect on the internal work environment (Sorensen, 2002). McKee et al. (1989) theorized that in volatile markets (that is, a market growing strongly but at an uneven rate), opportunities for the organization are expanding. In this context, they argue there is a greater need for flexibility. Furthermore, when markets are volatile there is more uncertainty and more pressure on the organization to change internally (Burt et al., 1994). Sorensen (2002) found that in volatile markets, those organizations that emphasized control, coordination, and goal alignment, in contrast to flexible organizations where modification of routines was encouraged, found their performance benefits disappeared. Based on these insights, we expect the flexible climates to relate directly and positively to perceived business performance, but only in the case of high market volatility.

More specifically, in relation to climate for internal flexibility, work design scholars have argued that uncertainty means both the occurrence of problems and the means of solving them are less predictable (Parker, 2003). Consequently, structuring work to devolve decision-making will be important, as well as possible, for organizations within uncertain operating environments. A climate for internal flexibility facilitates the rapid and effective localized decision-making that is required to deal with unpredictable problems, and can also support the second-order learning (Lant and Mezias, 1992) necessary in more volatile contexts. Our hypothesis is:

*Hypothesis 5a:* Climate for internal flexibility has a positive direct relationship with perceived business performance, but only under the situation of high market volatility.

Similarly, by putting pressure on organizations to detect and accommodate changes (Weick, 1979), market volatility demands greater external flexibility. A climate for external flexibility can bring information about changing market conditions inside the organization to inform it as to how to adapt to diverse and fast-changing requirements (Teece et al., 1997). Practices such as environmental scanning of external events and trends (Hambrick, 1982) can reduce the uncertainty associated with volatility and facilitate appropriate responses by the organization. Market research and customer feedback on new products or services are examples of such scanning, enabling those inside the organization to get a real-time reading of the external market and respond more appropriately. We hypothesize that:

*Hypothesis 5b:* Climate for external flexibility has a positive direct relationship with perceived business performance, but only under the situation of high market volatility.

Thus far, consistent with the Quinn and Rohrbaugh model that summarized approaches to organizational effectiveness, we have proposed that each of the climates will be important for business unit performance, either directly or indirectly, via their positive links with staff engagement and customer loyalty. In our model, perceived business performance was thus considered the ‘ultimate’ indicator of effectiveness. In our final hypothesis, we adopt a somewhat different approach. Reflecting a configural approach (Delery and Doty, 1996), we consider effectiveness as a configuration of high scores on customer loyalty, staff engagement, and perceived business performance simultaneously.<sup>3</sup> We refer to this outcome as configural effectiveness. This approach assumes that, whilst there might be some trade-offs between different effectiveness outcomes (Kopelman et al., 1990), such trade-offs are not often accepted by shareholders and are discredited in practice (Cameron and Quinn, 1999). Indeed, Quinn and Hall (1983) theorized that organizations do not pursue a single criterion, but aim to be effective on multiple dimensions simultaneously. We suggest there is value in identifying the climate patterns that best differentiate business units that have high scores on all effectiveness outcomes at once, which we refer to as high configural effectiveness.

Scholars have theorized that organizations that can accommodate distinctly different emphases are more likely to survive and prosper. As implied by Gibson and Birkinshaw (2004) in their work on contextual ambidexterity, business units that can foster multiple climates may be more effective for a diverse range of stakeholders because they are better able to respond to the variety demanded of them. Indeed, as Quinn and Rohrbaugh (1983) themselves noted: ‘... to ignore criteria in any of the models [represented by the quadrants] is to have only a partial view of performance. This suggests that in the administrative world, an effective organization may need to perform well on all four sets of criteria’ (p. 376). Our hypothesis represents a departure from others such as Ostroff and Bowen (2000: 244) and Patterson et al. (2005), who advocated a balance of climates in which some are high and others are low. As Collins and Porras (1994) summarized: ‘balance implies going to the midpoint, fifty-fifty, half and half ... blend[ing] yin and yang into a

gray, indistinguishable circle that is neither highly yin nor highly yang' (p. 44). Instead, our final hypothesis is:

*Hypothesis 6:* Business units that have high scores on all four climates will have high configural effectiveness (that is, high staff engagement, high perceived customer loyalty, and high perceived business performance) whereas those business units that do not have a high score on all four climates will have low configural effectiveness.

## Method

### Survey sample

The data set was derived from a proprietary survey administered by licensees to employees from multiple, globally diverse companies and industries between 1994 and 2001. Surveys were collected from 3058 business units (67,438 staff and managers). Almost two thirds of business units were from advanced country groupings (based on IMF categorizations) such as the USA and Western Europe. The full sample of 3058 business units was used to test the distinctiveness of the climates. A sub-sample of business units ( $n = 620$ ) was used to examine the link between climate (assessed by staff) and business unit effectiveness (assessed by managers). Using separate samples to assess climate and outcomes limited same source bias.

Administrators of the survey (consultants) were independent from the client to ensure anonymity. Respondents were not selected, rather all employees, across all levels, in a business unit were encouraged to participate in the survey. The survey was positioned as a way of determining the current (and ideal) 'climate', and viewed by management as an important step in engaging employees with a change process that would be responsive to outcomes of the survey. Participants completed hard copies of the survey, during work hours, and work schedules were adjusted to facilitate participation. While all potential respondents were encouraged to complete the survey, it was not compulsory. The survey was written in 12 different languages and back translated to assure equivalence of measures. We are reasonably confident that the sample obtained from each unit is unbiased, although the possibility of bias cannot be ruled out. Although not systematically recorded, administrators of the survey estimate a response rate of over 80 percent within most business units (personal communication, CEO PersonaGlobal, 2008).

### Measure development procedure

*Climate* There were 60 items in the original proprietary survey for assessing perceptions of various practices, staff motivation, and other organizational aspects. Respondents were asked to rate the extent to which the current situation matched each statement on a seven point scale from 1, 'strongly disagree', to 7, 'strongly agree'. To assess climate, we identified items from the larger item set that focused on descriptions of unit functioning (excluding items that were evaluative in emphasis) and that had a unit-level focus. Because the climate items were not developed specifically for the study, we identified the most appropriate items for the study adapting Stephenson's (1950) Q-sort method. As

reflexive variables, while we expected them to tap their climate conceptualizations, they were not intended to be exhaustive (see Chin, 1998). Organizational behavior experts<sup>4</sup> were asked to code each of the items into the four climate categories based on Quinn and Rohrbaugh's (1983) framework. We excluded any item not achieving more than 75 percent agreement amongst coders as well as those with low correlations with other items within each category, resulting in 12 items being retained; three per climate. Limiting the number of items increased the precision of the scales by avoiding redundancy (Kline, 1979). Scales were formed by summing the three items within each of the four categories, meeting Bollen's (1989) recommendation that latent variables should incorporate at least two indicators. Table 3 shows the full set of items for the climate measures. Internal reliabilities (all greater than .80) are shown in Table 1. CFAs showed the measures were distinct, as we report in the results section.

To further establish the validity of the climate scales, we conducted an additional study to check that our measures correlated with scales explicitly designed to assess Quinn and Rohrbaugh's (1983) model. Using Quinn and Rohrbaugh's organizational 'means' indicators, for example 'readiness' from the external-flexible quadrant, we created a phrase so that each indicator could be rated by managers in relation to their business unit on a Likert scale (e.g. 'readiness' became 'our business unit is in a state of *readiness* to respond to changes in the market'). The survey with both scales was administered to 102 managers with business experience (MBA students and alumni; 50% response rate). The correlations between the means scores of the Quinn and Rohrbaugh scales and climate scales were significant, providing conceptual validity for the proposed scale. Correlations between matching constructs were .71 ( $p < .01$ ) for a climate for internal flexibility; .62 ( $p < .01$ ) for a climate for external flexibility; .62 ( $p < .01$ ) for a climate for internal control; and .76 ( $p < .01$ ) for a climate for external control. Correlations between the matching constructs were higher than any of the other correlations, showing our measures have high convergence with Quinn and Rohrbaugh's terms (contact authors for full table of correlations).

**Effectiveness outcomes** A manager version of the survey assessed perceptions of customer loyalty and business performance. Following Delany and Huselid (1996), who composed composites of overall performance based on subjective assessments of, for example, growth, profitability, market share, we used three composite measures of effectiveness. Marketing-related literature reveals that intentions related to repatronage and word-of-mouth are the most salient indicators of customer loyalty (Hong and Goo, 2004). Thus three items comprise the perceived customer loyalty measure ( $\alpha = .76$ ): "most of our customers are 'loyal', they make a point of buying from us"; 'we get most of our business from word of mouth recommendations and referrals'; and 'our products/services are distinctive and better than those of our competitors'. Drawing on the disconfirmation-of-expectations model (Churchill and Surprenant, 1982), providing better products or services than those of competitors is also part of customer loyalty (Wirtz and Lee, 2003). Confirmatory factor analysis showed that this outcome was distinct from perceived business performance (see next). A two-factor fit well [ $\chi^2(8, N = 1833) = 1881, p < .01, RMSEA = .1^5, GFI = .97, NFI = .96, CFI = .96$ ], and was a better fit than a single-factor model ( $\chi^2_{diff} = 1114, df_{diff} = 1$ ).

Three manager rated items assessed perceived business performance ( $\alpha = .83$ ): 'my organization is achieving tangible results meeting profit targets'; 'my organization is achieving tangible results meeting sales/growth targets'; and 'my organization is achieving tangible results meeting competitive threats'. Business performance is often assessed with aggregated accounting-based indicators (such as return on assets). However, not only are there considerable difficulties in assessing business performance across industries and countries (e.g. inconsistency of accounting methods, proneness to manipulation, backward orientation [cf. Brown and Perry, 1994]), but there is rarely meaningful comparative data available at the business unit level. Managers' assessments of performance are not only more relevant but also provide a comparable evaluation metric. As Takeuchi and colleagues (2007) noted, although there are always concerns about the use of subjective performance measures, such as increased measurement errors and the potential for common method biases, there are compelling reasons for using such measures. Supporting this approach Wall et al. (2004: 112), found that subjective performance measures were positively related to their objective counterparts; they also found that those relationships were stronger than those between measures of differing aspects of performance using the same methods, and the relationship of subjective and objective company performance measures with a range of independent variables were equivalent. Demonstration of convergent, discriminant, and construct validity led them to conclude that 'findings relating the use of management practices to subjective measures of performance were essentially equivalent to those for objective performance'. Three items from staff ratings assessed staff engagement ( $\alpha^6 = .82$ ): 'people in this department have high job satisfaction'; 'there is high morale and motivation within my department'; and 'people are proud to work for this company'. Whilst this construct has a sparse and diverse theoretical and empirically demonstrated nomological net, our constructs come from the work of Schaufeli et al. (2002) and Macey and Schneider (2008).

**Market volatility** Following the approach of Sorensen (2002), the level of market volatility of each of the industries was calculated for the year in which the firm was surveyed, based on the 3-year rolling volatility figures. This volatility measure compares the monthly returns of all world-wide firms on the Morgan Stanley Classification Index (MSCI, 2003) by industry, to the equity market as a whole. Industries undergoing fundamental change are likely to be associated with greater uncertainty amongst investors and hence greater than average volatility in stock-market returns.

**Control variables** In testing the hypotheses, we also sought to control for the effects of potential confounding variables. Because level of development in the country in which the business unit is domiciled may influence practices and outcomes, we controlled for development using IMF country categorizations that accommodate both region and level of development. The categorizations were: advanced Asia (25%), advanced Europe (19%), advanced other (8%), USA (16%), developing Asia (20%), developing West (4%), developing Africa and Middle East (2%), and developing other (6%). Industry groups to which business units belong reflect some of the major parameters that influence organizational functioning. We thus also controlled for industry based on Global Industry Classification (GIC) codes. These were finance (14%), consumer discretionary

(33%), consumer staples (4%), health (15%), IT (1%), industrial (17%), utility (1%), telecom (7%), energy (2%), materials (1%), government (2%), and other (4%). The proportion in each grouping compared favorably with the percentage of global industries. As the size of the organization may have an impact on the nature and level of institutionalized practices, we differentiated business units according to whether their organization was small (less than 200 staff), 60 percent, or large (greater than 200 staff), 40 percent.

*Unit of analysis* Our model consists of 'shared unit-level constructs' (Klein and Kozlowski, 2000: 41) at the business unit level. Examples of business units were the sales office of a multinational pharmaceutical firm, based in Switzerland, with another business unit from the same company being the manufacturing plant for milk powder in Indonesia; an oilrig in Norway; a toy manufacturing unit in Japan; and a media unit in Namibia. Given the diversity of the sample, ranging from multinationals to small-to-medium enterprises, although respondents were cued to respond to some questions referring to their organization, it is likely that respondents were thinking of the proximal work environment of their business unit (Schneider et al., 1998). Shared perceptions is a function of certain psychological phenomena, such as employee exposure to a single work environment and likely to occur in subunits (Parker et al., 2003). Zohar and Luria (2005) found that perceptions of practices are the main source of group-level climates in subunits. Likewise, Ashkanasy and Nicholson (2003) found that, while organizations were differentiated on culture, climate varied between units within organizations. Aggregation analyses for our study supported this assumption, with more than acceptable levels of agreement within, and variation between, business units (Kozlowski and Klein, 2000), as well as better aggregation statistics at the unit level than those at the organizational level.

*Minimizing common method bias* Aggregated staff (employee) perceptions were used to assess climate and staff engagement, whereas aggregated manager perceptions were used to assess perceived business performance and perceived customer loyalty. To further mitigate same-source bias, we randomly split staff data within each business unit, half providing descriptive assessments on climate, with the other half assessing staff engagement. Likewise, we randomly split managers' data within each business unit, with half the managers providing assessments of customer loyalty and the other half providing assessments of business performance. In this way, different respondents reported on climate and each effectiveness outcome, hence reducing the potential for response bias at the aggregate level.

*Aggregation procedure* After eliminating cases with missing data and cases where there were insufficient managers or staff to achieve the random split (less than 4 staff and/or 2 managers), we matched responses on the four climate scales and three effectiveness scales, resulting in aggregated responses from 620 business units. While business units ranged in size from four to 580 employees, an average of 22 surveys was returned from employees, with a standard deviation of 36 with half that sample reporting on climate and the other half reporting on staff engagement. A mean of 4.4 managers per business unit rated customer loyalty and a mean of four managers rated business performance. Various indicators of within business unit homogeneity were calculated to substantiate aggregation of data to

achieve business unit scores. We calculated an inter-rater agreement score, the mean  $r_{wg}$  (James et al., 1993), for each variable. The accepted level for aggregating lower-level constructs to a higher level of analysis is  $r_{wg}$  greater than or equal to .70 (Klein and Kozlowski, 2000). We also generated the two major forms of intra-class correlation coefficient, ICC(1) and ICC(2). Evidence of convergence within units is an ICC(1) value greater than zero with a significant ANOVA test statistic (F) (Kenny and La Voie, 1985). Ostroff and Schmitt (1993) suggest that ICC(2) values should be .60 or higher to meet acceptable levels of mean score reliability. Within-unit agreement and between-unit differences supported aggregation of the data. Aggregation statistics for climate for internal flexibility ( $\alpha = .85$ ) were:  $r_{wg} = .74$ , ICC(1) = .18, ICC(2) = .82,  $F = 5.06$  ( $p < .01$ ); climate for external control ( $\alpha = .81$ ) were:  $r_{wg} = .77$ , ICC(1) = .26, ICC(2) = .80,  $F = 6.22$  ( $p < .01$ ); climate for internal control ( $\alpha = .86$ ) were:  $r_{wg} = .81$ , ICC(1) = .20, ICC(2) = .84,  $F = 5.27$  ( $p < .01$ ); climate for external flexibility ( $\alpha = .84$ ) were:  $r_{wg} = .79$ , ICC(1) = .22, ICC(2) = .84,  $F = 5.32$  ( $p < .01$ ); staff engagement ( $\alpha = .82$ ) were:  $r_{wg} = .84$ , ICC(1) = .21, ICC(2) = .75,  $F = 6.52$  ( $p < .01$ ); perceived customer loyalty ( $\alpha = .76$ ) were:  $r_{wg} = .87$ , ICC(1) = .24, ICC(2) = .76,  $F = 3.58$  ( $p < .01$ ); and for perceived business performance ( $\alpha = .83$ ) were:  $r_{wg} = .86$ , ICC(1) = .26, ICC(2) = .81,  $F = 2.97$  ( $p < .01$ ). In all cases a uniform null distribution was used as we had no reason to suspect that respondents' (anonymous) ratings were significantly affected by biases.

## Data analysis

To test the distinctiveness of the four types of climate, we conducted a confirmatory factor analysis on items aggregated to the business unit level. To further confirm the distinctiveness of the climates, we randomly divided the business units into two independent samples. We used factor analyses in one sample to independently corroborate our 'exploratory' scales tested in a holdout sample.

Hypotheses 1 to 4 were tested using Structural Equation Modeling (SEM). SEM enables the testing multiple paths simultaneously (Schneider et al., 2005), at the same time as incorporating observed and latent constructs in these associations, and accounting for the biasing effect of random measurement error in the latent constructs (Medsker et al., 1994). We compared the hypothesized model, illustrated in Figure 1, with three plausible alternative models to determine the best fitting model.

To test Hypotheses 5a and 5b that proposed a moderating effect of market volatility on the relationship between the two flexible climates and perceived business performance, we used a hierarchical regression procedure, following Baron and Kenny (1986) which avoided adding further complexity to the structural equation model. This allowed us to examine the extent to which regression coefficients varied across different levels of market volatility, while borrowing strength from the full sample. In each regression, we entered control variables in step one, all four climates and market volatility in step two, and the interaction term (the product of market volatility and the relevant climate dimension) in step three.

Hypothesis 6 proposed that business units with high scores on all effectiveness outcomes concurrently would have high scores of all four climates. To test this, we used discriminant function analysis because it enabled us to predict group membership from a set of predictors. We sought to determine how the four climates related to the eight possible configurations of effectiveness. This technique enabled us to create configurations

of effectiveness that were not the summed score of the three outcome variables. Using median splits, these configurations ranged from units with high staff engagement, high perceived customer loyalty, and high perceived business performance to those low on all of these effectiveness criteria, and including all combinations in between. Split samples and residual scores were used as in the previous analyses.

## Results

Table 1 shows the means, standard deviations, and correlations for core variables after matching staff and manager ratings across business units. Internal reliabilities (all greater than .80) are also shown. Correlations with controls are not shown owing to space restrictions.<sup>7</sup> Correlations between climate variables ranged from .48 to .68 reflecting a reasonable, but not excessive, degree of relatedness.<sup>8</sup> These positive correlations highlight the need to consider multiple climates together in any investigation of their relationships with effectiveness. Supporting the theoretical framework, the two climates that are most highly related, climate for internal control and climate for external control ( $r = .68$ ), are in the quadrants that Quinn and Rohrbaugh (1983: 371) also found to be most similar.

Confirmatory factor analysis using SEM validated the four climates scales as being empirically distinct. Based on the two independent samples created by randomly splitting the staff-rated data ( $n = 3058$ ), absolute, comparative, and parsimonious fit indices for the proposed five-factor structure (the four climates and staff engagement) suggest a very good fit in both samples, and a better fit than alternative models (see Table 2). The climate dimensions were also distinct from staff engagement. Table 3 shows all items have loadings on their construct greater than .60, with no cross-loadings greater than .30.

**Table 1** Means, standard deviations and correlations of major study variables ( $n = 620$ )

Variable	Mean	SD	1	2	3	4	5	6	7
1 Climate for internal flexibility	4.43	.77	(.85)						
2 Climate for external control	4.21	.82	.66**	(.81)					
3 Climate for internal control	4.28	.82	.66**	.68**	(.86)				
4 Climate for external flexibility	4.54	.85	.48**	.62**	.64**	(.84)			
5 Perceived business performance	4.93	.95	.19**	.28**	.25**	.26**	(.83)		
6 Perceived customer loyalty	4.71	.83	.27**	.29**	.35**	.32**	.31**	(.76)	
7 Staff engagement	4.64	.82	.49**	.42**	.44**	.39**	.24**	.26**	(.82)
8 Market volatility	14.15	5.02	.10*	.04	-.06	.01	-.05	.08*	.03

Notes: Correlations are based on residuals (after effect of controls removed), with the exception of market volatility, which is correlated with variables before the effect of controls has been removed (market volatility is included as a control when creating residuals). Rounded parentheses on the diagonal indicate reliabilities, before removing the effect of controls.  $n$  is smaller as matching across business units requires sufficient sample sizes in each of the two distinct staff samples (evaluating climates and staff engagement) and two distinct manager samples (evaluating business performance and customer loyalty). Owing to the large number of controls (9 country groupings, 12 industry sectors and size), correlations with controls are not included but are available from the first author. Climate correlations are higher as LISREL uses a strict test where the interfactor correlation = 1 (recognizing that the corrected correlations are much higher).

\*\* $p < .01$ , \* $p < .05$

**Table 2** Cfas comparing fit indices of the 5-factor model with alternative models using two randomly created samples

Model	Factor structure	Config.	df	df <sub>diff</sub>	Sample 1 n = 1353					Sample 2 n = 1336				
					$\chi^2$	RMSEA	GFI	CFI	$\chi^2_{diff}$	$\chi^2$	RMSEA	GFI	CFI	$\chi^2_{diff}$
5 factor	SE EF EC IC IF	4 distinct climates	80		645	.07	.94	.96		718	.08	.93	.95	
1 factor	SE&EF&EC&IC&IF		90	10	3345	.16	.75	.81	2700**	3330	.16	.75	.80	2613**
4 factor	SE IF&EF IC EC		84	4	1463	.11	.87	.91	818**	2344	.14	.81	.85	1627**
	SE IC&EC IF EF		84	4	751	.08	.93	.95	106**	1147	.10	.90	.92	430**
	SE IF&IC EC EF		84	4	1613	.12	.86	.90	968**	1658	.12	.86	.89	941**
	SE EC&EF IF IC		84	4	2224	.14	.82	.87	1579**	1688	.12	.86	.89	971**
3 factors	SE EC&IC IF&EF	Structure	87	7	1577	.11	.87	.90	932**	2737	.15	.79	.83	2020**
	SE IF&IC EC&IC	Focus	87	7	3169	.16	.76	.83	2524**	2646	.15	.79	.84	1929**
	SE IF&EC EF&IC	Diagonal	87	7	3204	.16	.76	.82	2559**	2037	.13	.83	.86	1320**

NB Staff Engagement (SE) was included as it was important to establish the distinctions between all constructs evaluated by staff, albeit separate samples  
 SE = Staff Engagement, EF = Climate for External Flexibility, EC = Climate for External Control,  
 IC = Climate for Internal Control, IF = Climate for Internal Flexibility

**Table 3** Standardized parameter estimates for the measurement model ( $n = 602$ )

Items	Climate for internal flexibility	Climate for external control	Climate for internal control	Climate for external flexibility
1 There is a strong feeling of teamwork within my department.	.63			
2 Our managers treat our role as one that makes an important contribution to our organization's success	.65			
3 Managers ask for, and act upon, employees' views regarding improvements	.68			
4 Top management clearly communicates the company's mission to employees		.66		
5 Employees frequently receive feedback on what our customers think about the service we provide		.64		
6 Employees are regularly briefed on departmental and organizational performance.		.64		
7 There are clearly defined performance standards for quality/customer service in my organization.			.76	
8 Our procedures make it easy to meet customer needs/produce quality and work effectively.			.71	
9 Procedures between departments are simple and aligned to ensure a smooth flow of work.			.77	
10 We constantly review our products or services to meet customer needs.				.62
11 My organization seeks the views of our customers on new products/service before introducing them.				.75
12 My organization regularly conducts market research to determine our customers' needs.				.70

### Model comparisons and overall model fit

We compared the hypothesized model (Model 1) with a null latent model that constrains the relationship between all latent factors to zero. The hypothesized model provided a good fit to the data with  $[\chi^2 (174, N = 602) = 466, p < .01; GFI = .93; NFI = .94; CFI = .96; RSMEA = .05]$ , with no modification index greater than five. Demonstrating a significant improvement in fit over the null latent variable model  $[\chi^2 (183, N = 602) = 880, p < .01; GFI = .88; RSMEA = .08]$ , the large and significant difference between the two models  $[\chi^2_{diff} = 414, df_{diff} = 9, p < .01]$  provides the basis for examining alternative nested models (Anderson and Gerbing, 1988).

Model 2 had an acceptable fit to the data, however Model 1 and Model 2 were not significantly different,  $[\chi^2_{diff} = 9.23, df_{diff} = 6, p > .10]$ , indicating that additional paths were unnecessary and that Model 1 was preferred. As a baseline model, Model 3 identified whether there were direct effects alone. In Model 3, paths linking staff engagement and perceived customer loyalty to perceived business performance were removed, and staff engagement and perceived customer loyalty were not correlated. This non-mediated model also had acceptable fit but was a significantly poorer fit compared with Model 1  $[\chi^2_{diff} = 3, N = 602) = 28, p < .01]$ . Model 4 represents a fully mediated model that excluded the paths linking climate for external control and climate for internal control to perceived business performance. We used this model to establish whether the intermediary roles of staff engagement and customer loyalty were necessary. Although Model 4 also had acceptable fit  $[\chi^2 (176, N = 602) = 485, p < .01; GFI = .93; NFI = .93; CFI = .96; RSMEA = .05]$ , it was a poorer fit when compared with Model 1  $[\chi^2_{diff} (N = 602) = 20, p < .01]$ . In summary, the optimum-fitting model was the hypothesized model.

### Tests of hypotheses

Figure 1 shows the parameter estimates for the paths in the final model. In terms of the direct relationships, consistent with Hypotheses 1a and 1b, climates for internal-flexibility and external control both had significant positive links to staff engagement ( $\beta = .37, p < .01; \beta = .22, p < .05$ , respectively). Similarly, climates for external flexibility and internal control both positively predicted customer loyalty, supporting Hypotheses 2a and 2b ( $\beta = .23, p < .01; \beta = .24, p < .01$  respectively). Finally, as proposed in Hypothesis 3a, a climate for external control related directly to perceived business performance ( $\beta = .23, p < .01$ ). Contrary to expectations, a climate for internal control did not relate significantly to perceived business performance ( $\beta = .01$ , n.s.) and Hypothesis 3b was not supported.

Since both climate for external flexibility (H2a) and climate for internal control (H2b) positively related to perceived customer loyalty, and perceived customer loyalty had a positive and significant relationship with perceived business performance ( $\beta = .26, p < .01$ ), this facilitated interpretation of the mediation hypotheses. Supporting Hypotheses 4b, the relationships between a climate for internal control and perceived business performance, and between a climate for external flexibility and perceived business performance, both appear to be fully mediated by perceived customer loyalty. However, in the absence of a significant relationship between staff engagement and perceived business performance ( $\beta = .01$ , n.s.) the hypothesized mediating role of staff engagement

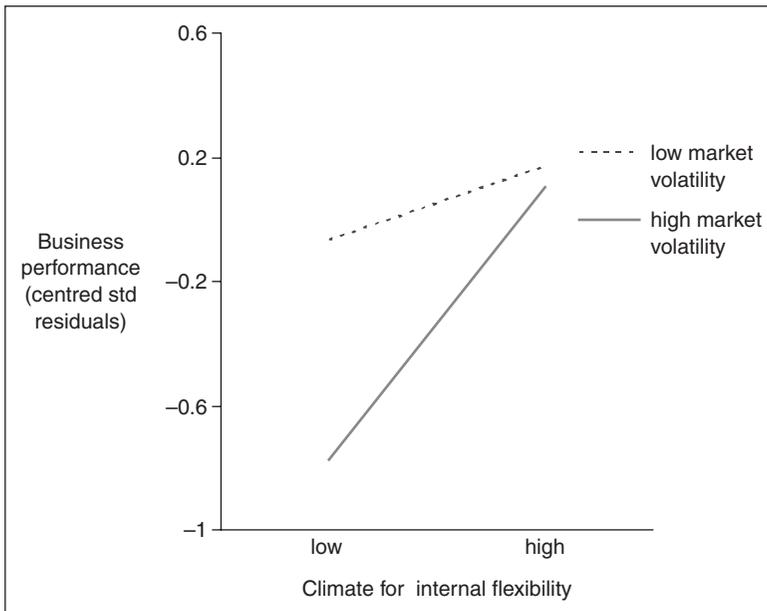
(Hypothesis 4a) is not supported. Consistent with the hypothesized model, the proportion of explained variance ( $R^2$ ) confirmed that multiple climates related to effectiveness outcomes. The proportion of explained variance in perceived business performance was .17, .20 for perceived customer loyalty, and .32 for staff engagement.

**Table 4** Results of regression analysis - interaction between climate for internal flexibility and market volatility as they relate to perceived business performance ( $n = 620$ )

Step	Independent variables	Beta weights at steps 2 and 3		
		Step 1	Step 2	Step 3
2	Climate for internal flexibility		-.03	-.02
	Climate for external flexibility		.14*	.15**
	Climate for internal control		.11	.10
	Climate for external control		.17**	.17**
	Market volatility		-.05	-.06
3	Internal flexibility $\times$ market volatility			.08*
	$R^2$	.06	.16	.17
	Change in $R^2$	.06**	.10***	.01*

Notes: In Step 1 the only control variables with significant relationships ( $p < .05$ ) were Advanced Europe ( $\beta = -.16$ ) USA ( $\beta = -.21$ ) and Advanced Other ( $\beta = -.26$ ). Other control variables included (but resulting in non-significant relationships with Perceived business performance) were the country groupings Developing Africa, Developing West, Developing Asia, and the industry groupings Finance, Consumer discretionary, Consumer staples, Health, IT, Industrial, Utility, Telecom, Materials, as well as a dummy variable representing size.

\*  $p < .05$ , \*\*  $p < .01$



**Figure 2** Effect of volatility on the relationship between a climate for internal flexibility and perceived business performance

Hypothesis 5a that market volatility would moderate the relationship between climate for internal flexibility and perceived business performance was supported. As shown in Table 4 there was a significant beta weight ( $\beta = .08, p < .05$ ) for the interaction term,<sup>9</sup> which contributed a significant amount of additional variance to the regression equation ( $\Delta R^2 = .01, p < .05$ ), albeit a relatively small effect. To interpret this interaction, we conducted separate regressions for groups with different levels of volatility. Under conditions of high market volatility (+1 SD), a climate for internal flexibility directly and positively related to perceived business performance ( $\beta = .19, \Delta R^2 = .01, p < .05$ ), but there was no significant relationship when volatility was low (-1 SD) ( $\beta = .10, n.s., \Delta R^2 = .01, p < .14$ ). Figure 2 shows that when market volatility is high, climate for internal flexibility is positively associated with perceived business performance. Hypothesis 5b that market volatility would moderate the relationship between climate for external flexibility and perceived business performance was not supported.

Hypothesis 6, proposing that business units with high scores on all effectiveness outcomes concurrently would be characterized by high scores of all four climates, was supported. Results from the discriminant function analysis revealed two functions (Wilks  $\lambda = .72, p < .01$ , and Wilks  $\lambda = .95, p < .01$ ). With both functions included, the chi squared of 204.79 indicates a highly reliable relationship between groups of outcomes and climate predictors. The relative proportion of between-group variability is best accounted for by the first discriminant function (87%). All four climates together comprise the set defining the first function. Group centroids represent the average point in the multidimensional space defined by the sets' outcomes and the climates. In this case, the group centroids indicate that the best predictors for distinguishing the outcome set with high levels of effectiveness on all criteria, from any of the seven other outcome sets, are high levels of all four climates. This result was represented by a canonical discriminant function of .79. No other combination of outcomes amongst the seven alternatives (e.g. high on perceived business performance only, or high on staff engagement and high on customer loyalty) was greater than .45. This pattern of findings supports Hypothesis 6.

## Discussion

In our study, we showed that four empirically distinct climates map onto the competing values framework. Each of these climates was associated with business unit effectiveness outcomes, albeit in different ways. Climate for external control was directly associated with perceived business performance; climates for external flexibility and internal control were both associated with greater customer loyalty, which in turn predicted perceived business performance. Importantly, we also showed the moderating role of context. Climate for internal flexibility was positively associated with perceived business performance, but only when market volatility was high. An additional analysis showed that business units with higher scores on all effectiveness indicators concurrently had high levels of all four climates. Overall, the study supports the value for organizational effectiveness of having multiple climates that collectively accommodate an internal and external focus, as well as control and flexibility.

### *Theoretical implications*

This research extends our understanding of climate in a number of important ways. First, it shows that a useful way of conceptualizing climate is to map climate onto Quinn and Rohrbaugh's framework. In essence, we extended the 'climate-for-something' perspective by using the Quinn and Rohrbaugh framework of business effectiveness to identify a theoretically complete set of climates that should influence effectiveness. By adopting and extending Schneider et al.'s (2000) admonition that 'climate has to have a focus' (p. 25) we have made it possible to frame a global climate approach that not only allows for the possibility of multiple climates occurring in the same organization, but begins to answer concerns of others (Lewis, 2000; Nishii et al., 2008) to accommodate organizational pluralism and apply climate constructs to help explain overall business effectiveness.

A key implication is that our study shows the importance of multiple climates together influencing effectiveness. By being able to show the capacity to accommodate multiple climates is possible within business units, we support emerging theory (Lewis, 2000) that has begun to shift the focus from tradeoff (either/or) to paradoxical (both/and) thinking. In our findings, business units that performed well in terms of positive outcomes for key stakeholders had climates for internal control and external control and internal flexibility and external flexibility. Contrary to the traditional literature on ambidexterity (Duncan, 1976) that considers organizations must manage the conflicting demands by putting in place 'dual structures' so certain business units focus on flexibility while other focus on alignment through control mechanisms, we have shown that effective business units can emphasize both control and flexibility, and focus both internally and externally. Our findings further suggest emphasizing these different climates provides a pathway to effectiveness, as demonstrated in the direct links between climate and perceived business performance, the mediated links through customer loyalty, and the final configural analysis.

Some researchers (Ostroff and Bowen, 2000) have proposed that 'particular strategy typologies (Porter, 1980; Miles and Snow, 1984) coupled with relevant climates and sets of HR practices, contribute to achieving different categories of effectiveness criteria' (p. 244). Our research showed that while this might be the case, if managers match climate configurations with particular strategies, a trade-off may occur in the outcomes. This study suggests that a better overall outcome, one that accounts for the interests of multiple stakeholders, may result from embedding practices associated with the range of climates, rather than privileging one above another. This supports Quinn and Rohrbaugh's (1983) own often overlooked statement that 'in the administrative world an effective organization may need to perform well on all four sets of criteria' (p. 376). The potential benefit of a foundation of multiple climates makes sense in an increasingly competitive, global context where strategies can, and often must, change frequently to maintain a competitive advantage. Organizations that foster multiple climates are familiar with a broader repertoire of practices, with an attendant mindset that accommodates differences, which can be called on as required. Although it is not expected that everyone within the business unit is involved in all the practices represented by the climate, better performing business units as a whole are perceived to have higher levels of all four climates.

Furthermore, this research identified an important boundary condition that showed that the level of market volatility, representing uncertainty in the external context, has a significant influence on the relationship between internally focused practices and perceived business performance. A climate for internal flexibility is a likely asset, but only when the external context is uncertain. This moderation, consistent with theory on uncertainty and innovation (Eisenhardt and Tabrizi, 1995), might occur because the practices relating to a climate for internal flexibility encourage the individual and team responsiveness and problem solving necessary for sustaining perceived business performance in uncertain contexts where there is an imperative to respond quickly to changing market conditions. While the effect of this interaction on perceived business performance is relatively small, the finding is still significant given interaction effects are notoriously difficult to detect (Aguinis, 2002), particularly in field studies (Rogers, 2002). Interaction terms help in establishing the presence of a conditional relationship, thereby improving the ability to predict (Friedrich, 1982). In this case, the moderating role of volatility in the relationship between a climate for internal flexibility and perceived business performance could help to explain previous inconsistent findings in this area (Cappelli and Neumark, 2001).

Surprisingly, market volatility did not moderate the relationship between a climate for external flexibility and perceived business performance. A climate for external flexibility implies the capacity to recognize new external knowledge, assimilate it, and apply it to commercial ends (Cohen and Levinthal, 1990). While this capacity may be useful in dynamic markets by providing greater flexibility in reconfiguring resources and effective timing of knowledge deployment at lower costs, which could be expected to translate to improved business performance, this may not always convey an advantage. Although a climate for external flexibility fosters innovation, the resultant products and services may be rapidly commoditized (Zahra and George, 2002) and become obsolete relative to current environmental demands (Sorensen and Stuart, 2000). Accordingly, market volatility may not place a premium on a climate for external flexibility as in this context units may need to be even more selective in exploiting opportunities in order to maintain business performance (Jansen et al., 2005). However, practices that are internally focused and flexible may lead to efficiencies that have a greater impact on business performance.

By investigating the pathways by which climate predicted perceived business performance, this research also has important implications for linkage research (Pugh et al., 2002) and the service profit chain (Heskett et al., 1997), and more generally beyond a focus on the service industry. First, the combination of climates for internal control and external flexibility related to perceived business performance through their association with customer loyalty. One could speculate that, when coupled with the externally-responsive focus of a climate for external flexibility, a climate for internal control increases the capacity to respond efficiently to the changing requirements of customers. In contrast, despite the long held belief that staff motivation should translate into better business performance, this relationship has not always been shown empirically (Wright and Staw, 1999) and was not supported in this research. Staff engagement did not act as a mediator between climate and perceived business performance. Nevertheless, it would be premature to conclude that staff engagement is unimportant for performance. It might

be, for example, that staff engagement does affect performance, but only in specific circumstances, such as high customer-staff interaction environments. Alternatively, it might be that particular types of staff engagement, such as proactive motivation (Parker et al., 2006), facilitate the innovative performance most required in today's organizations. Irrespective of these speculations, however, staff engagement is an important end in itself and the current study suggests that, at the least, it does not detract from business performance. It might also be that motivated staff are more likely to satisfy customers (as suggested by the positive correlation between staff engagement and customer loyalty), thereby staff engagement might affect performance more indirectly than we have focused on.

The direct positive relationship between climate for external control and perceived business performance supports the idea that perceptions of clear direction, reinforced by ongoing feedback, are important for facilitating performance. As the popularity of the Balanced Scorecard (Kaplan and Norton, 1996) suggests, tracking behavior relative to concrete measures of the mission might enhance business effectiveness, perhaps because less time is wasted on non-core activities.

### *Practical implications*

This research highlights the importance of transcending a binary, either/or view of the work context. Rather than emphasizing one climate over others, managers are encouraged to foster systems and processes that encourage behaviors that demonstrate the capacity to look outward and inward at the same time, as well as enabling flexibility within boundaries. Recognizing that a source of innovation is often found in tension, rather than try to eliminate the seeming differences, managers are encouraged to identify ways to accommodate the tension and use it constructively. Takeuchi et al. (2008) ascribe Toyota's success as much to Toyota's ability to embrace contradictions like being 'stable and paranoid, systematic and experimental, formal and frank' as to its manufacturing prowess. The organization built routines and processes to achieve these goals. This approach aligns with the literature promoting paradoxical approaches to management (Lewis, 2000).

In practice, it should not be the purview of particular departments to be flexible, for example marketing departments, with others, such as accounting expected to only foster practices aligning with internal control. As Gibson and Birkinshaw (2004) found, successful business units were able to align and adapt by aligning themselves around adaptability. They point out that the systems to do so are often quite simple. Rather than structural or architectural solutions to achieving this ambidexterity, individuals and teams are encouraged to make their own choices as to how they divide their time between alignment-oriented and adaptability-oriented activities. Ghoshal and Bartlett's (1994) framework for organizational effectiveness suggests successful managers foster organizational contexts that support the development of the multiple diverse practices. All areas within a business unit can look to the external environment for inspiration in product and service innovation or to enhance their (internally focused) management practices (Hamel and Breen, 2007), and find ways to marry control with empowerment (Simons, 1995).

Case studies of successful organizations (e.g. Southwest Airlines and Flight Centre) suggest that they have a climate for internal flexibility (practices such as team work and involvement in decision making), a climate for internal control (such as close focus on standardized systems where everyone operates to a 'strict set of agreed systems'), and a climate for external control (clearly communicated mission and feedback) at the same time (Dunford and Palmer, 2002). In the cockpit of airplanes and for certain medical practices, there are systems for employees to bypass protocols if they judge this is best, demonstrating control and flexibility. The increasing use of technology-enabled knowledge management systems (Davenport, 2006) demonstrates how analytics can be used to ensure alignment and consistency, at the same time as exploring unexploited opportunities both inside and outside the organization. Using metrics in this way could serve as vehicle that demonstrates the mind-set of accommodating contrasting climates. Managers can put in place other systems (e.g. performance management and reward systems) that encourage practices that reflect all four climates, as well serving as good examples, modeling the practices implied by all four climates.

### *Strengths, limitations, and directions for future research*

Theoretically, our study has advantages. We tested the distinctiveness of theoretically-derived multiple climates at the business unit level, providing the statistical integrity of ensuring a direct alignment with the unit of analysis at both the independent and dependent variable level (Chen et al. 2004) that is not available from studies examining climate at an individual level (e.g. Patterson et al., 2005). Our study investigated the multiple relationships between the four climates and different effectiveness outcomes concurrently, enabling an assessment of the climates' unique effects, as well as mediating pathways by which climate influences ultimate effectiveness, representing a significant advance on studies that rely on bivariate analysis (cf. Kinicki et al, 2005). Methodologically, our study also has strengths. Significantly extending extant climate research, it draws on a diverse sample of business units spanning many companies, countries and industries, thereby enhancing generalizability. We also employed strategies to validate the measures, including use of a holdout sample to test the structure of climate, use of data from multiple respondents, and four different sources. Finally, separate samples of randomly split respondents at both the employee and managerial level reduced the potential for common method bias.

The study nevertheless has limitations. First, the measures of climate were not designed for the study; rather, we used a large secondary data set. Expanding item content to include additional practices within a particular climate could further enhance scale validity. All items should also have a referent that is appropriate to the level of analysis, which was not possible for all items in the current study. However, it is important to note that the validation study provided good support for the alignment of this study's constructs and scales developed to directly assess Quinn and Rohrbaugh's dimensions (1981, 1983). Second, the study relied on managers' perceptions of business performance and customer loyalty using non-established measures. Studies support the validity of this approach (for example, Wall et al., 2004) but, ideally, one would also include objective performance data, as well as ratings from customers. Third, although the sample was diverse, all of the

organizations had in common their participation in the proprietary survey which was costly. As such, the organizations in our sample might be more likely than average to implement strategic HR initiatives. Finally, the cross-sectional research design does not allow us to rule out the possibility that business units that are performing well adopt particular climates. We recommend further studies to test this possibility.

As well as improving the methodology, theoretical extensions can be made. For example, one could investigate: interactions between climates; the influence of climate strength on the relationship between climate and outcomes (Schneider et al., 2002); and additional contextual contingencies over and above market volatility (e.g. market strategy, organization size, etc). For example, fostering multiple climates might be of particular value during times of change because the 'heritage' of a breadth of organizational emphases may enable change to be better integrated. In essence, a framework of multiple climates might provide a meta-level of flexibility.

## Conclusion

The present results lend credence to the notion that firms that accommodate multiple climates are better able to deliver positive outcomes for multiple key stakeholders than those that privilege one climate over another. An effective organization is perceived by its employees to value and act on their input (climate for internal flexibility), within a framework of clear expectations (climate for internal control), derived from an effectively communicated mission (climate for external control), while being open and responsive to customers and the opportunities that reside in the fast-changing world (climate for external flexibility). A better understanding of which climates affect which outcomes allows one to more readily identify the behaviors necessary for sustainable organizational advantage in a multifaceted reality.

## Notes

1. For example, small samples, often fewer than 30 units (e.g. Schneider and Bowen, 1985), mean low power for the analyses; single industry (for example, Patterson et al., 2005) or single organization studies (for example, Borucki and Burke, 1999; Schneider et al., 2005) limit generalizability; and much of the literature is not published in peer-reviewed journals (Kotter and Heskett, 1992; Rucci et al., 1998; Wiley, 1996).
2. Quinn and Rohrbaugh's (1983) framework has been used in the culture literature (for example, Zammuto and Krakower, 1991 and Buenger et al., 1996). However such studies focus on underlying values rather than perceived practices and were not related to effectiveness outcomes. Patterson et al. (2005) used this framework in their study of climate but measured climate at the individual unit of analysis.
3. This approach is not the same as creating a summed score of the three variables. With a summed score, two business units could have the same summed score, yet one might have moderate scores on all of the variables, whereas the other might have a very low score on one variable, a moderate score on the second, and a high score on the third.
4. Three organizational behavior professors and nine business administration PhD candidates.
5. Steiger (1990) suggests that values below 0.1 indicate a good fit to the data.
6. All alphas ( $\alpha$ ) are reported on data aggregated to the business unit level where all analyses were conducted.

7. Significant correlations, larger than .15, between variables and controls were: staff engagement with advanced Asian countries ( $r = -.17$ ), developing Asian countries ( $r = .22$ ), and developing Western countries ( $r = .15$ ); and customer loyalty with other advanced countries ( $r = -.25$ ), and consumer discretionary industries ( $r = .16$ ). A full correlation matrix is available from the author.
8. Correlations amongst aggregated measures will be inflated because of the problem of correlated errors (Richards et al., 1991). Furthermore, a shared item stem may have contributed to these correlations.
9. Owing to space restrictions, the full regression table is not included but is available from the first author.

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