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## Does The Leader Fit The Place? Examining Leader-Culture Fit And Its Implications For Leader Effectiveness

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**DO THE LEADERS FIT THE PLACE? EXAMINING LEADER-CULTURE FIT AND  
ITS IMPLICATIONS FOR LEADER EFFECTIVENESS**

by

**BENJAMIN BIERMEIER-HANSON**

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## **CHAPTER 1 - DO THE LEADERS FIT THE PLACE? EXAMINING LEADER-CULTURE FIT AND ITS IMPLICATIONS FOR EFFECTIVENESS**

Decades of research and theorizing have unearthed many well-accepted truisms within the organizational culture and leadership literatures. We know that, for culture, “the people make the place” (Schneider, 1987). We also know that, when it comes to leadership, the situation matters (Fiedler, 1967). Our theoretical knowledge extends to the linkages between the two literatures as well. We know that leaders, generally, and founders, in particular, have a profound influence in shaping organizational culture. Finally, we know that culture can, in turn, shape leaders, such as when culture constrains a leader’s development (Schein, 1985). However, despite calls for increased research into leader-context dynamics (Day, 2000), there has been very little empirical investigation into the interplay between the two subjects (Porter & McLaughlin, 2006). That is, while there has been a considerable amount of theoretical discussion the actual dynamics between the two are comparatively understudied.

The present study investigates a relatively new construct, leader-culture (L-C) fit, and its impact on perceived leader effectiveness. L-C fit, a subtype of Person-Environment (P-E) fit, generally, and Person-Organization (P-O) fit, specifically, has been primarily discussed conceptually (Burns, Kotrba, & Denison, 2013) and as it relates to executive coaching (Nieminen, Biermeier-Hanson, & Denison, 2013). Given the importance of leader effectiveness to a variety of organizational outcomes, the present study applies an empirical lens to examining L-C fit and its relationship to effectiveness. In doing so, this approach specifically provides initial empirical support for the relationship between L-C fit and leader effectiveness while more broadly contributing to the continued development of the P-E fit literature.



## Leadership

Leadership has been studied in a variety of traditions dating back thousands of years, when leadership was primarily discussed in theoretical terms within the study of philosophy. More recently, leadership scholars have applied a scientific lens to this study. While countless theories and definitions have been proposed over the years (Fiedler, 1967), the initial empirical approaches focused on the traits and behaviors that make an effective leader. The introduction of contingency theory in the 1960s (Fiedler, 1967) marked a watershed moment in the history of this field by introducing a profoundly simple idea: The situation in which a leader operates matters too.

In hindsight, it is somewhat remarkable to think that the context in which leadership occurs was largely ignored for decades. Fiedler's contingency theory, while no longer seriously studied or applied, provided a turning point by pointing out that leadership is dependent not only on the leader themselves, but also on the context and situation in which leadership occurs. At the same time, the situation is dependent, in part, on the leader. In the four decades since this was introduced there have been considerable advancements in leadership theories, many of which implicitly acknowledge the importance of context or examine contextual factors as boundary conditions. Few studies, however, have directly examined the dynamic between the leader and their environment.

Almost all of the current leadership theories have, at least to a degree, stemmed from this contingency approach to leadership. They have taken a variety of approaches to integrating context into the study of leadership following Fiedler's work. Relational theories of leadership have focused on other individuals (i.e., subordinates) and their unique relationship with the leader in question. This approach to leadership originated with the vertical-dyad-linkage theory

(Dansereau, Graen, & Haga, 1975) and developed into the leader-member-exchange theory (e.g., (Graen & Uhl-Bien, 1995), which focuses on the nature and the quality of the relationship between the leader and the subordinate and how this quality predicts a variety of workplace outcomes, such as job performance, supervisor satisfaction, and commitment (Gerstner & Day, 1994). The context, in this instance, is the subordinates with whom the leader interacts.

More recent theories, like the Full-Range-Leadership theory (FRLT; (Bass & Avolio, 1990) have not taken situational factors into account as explicitly, though the influence of Fiedler's work can still be seen. This broad theory focuses on the range of leadership behaviors that can be enacted and is an extension of Bass' transformational leadership theory, which in turn has its roots in House's charismatic leadership theory (House, 1977). Transformational leadership theory focuses on exemplary leaders who inspire their followers. The FRLT expands on the transformational leadership paradigm, adding transactional leadership and laissez-faire leadership to encompass a broader spectrum of leadership behaviors.

Transformational leaders are characterized by their charisma, their ability to inspire and motivate others with a compelling vision, their ability to intellectually stimulate their followers, and the consideration they pay to each follower. Transactional leaders are characterized by their use of rewards in exchange for performance, and their tendency to step in only when problems arise. Finally, laissez-faire leaders do not exhibit leadership behaviors or qualities at all. Research has shown that transformational leadership and transactional leadership predict outcomes that include leader effectiveness, job satisfaction, commitment, and motivation (Judge & Piccolo, 2004). Studies have also found evidence that truly transformational leaders are also necessarily transactional. In other words, while transactional leadership is good, transactional and transformational leadership is better. The role of followers and the broader context created,

shaped, or maintained by the leader are critical factors, although they often are not explicitly examined or acknowledged. Other constructs, such as authentic leadership (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008), been also proposed as alternative models of leadership and have received generally positive empirical support.

Recent efforts have been undertaken to talk about leadership using a broader conceptualization of context. As Fiedler noted, the leader can both shape and be shaped by the situation. These efforts have not introduced new theories of leadership. Instead, theoretical and empirical efforts have identified important contextual factors and studied moderating factors that relate existing leadership theories. Organizational culture is one of these contextual factors that, to date, has been relatively understudied in conjunction with leadership.

### **Organizational Culture**

Organizational culture is one of the primary broad contextual factors that is by shaped by and in turn shapes leaders, although it certainly is not the only one. Edgar Schein defined culture as a shared set of beliefs, values, and assumptions within an organization (Schein, 1985). Unlike the influence of contextual factors on leadership, the influence of leadership has always been central to the discussion of organizational culture. Early culture researchers were quick to note leaders are one of the primary influences on the creation and maintenance of an organization's culture (founders shape an organization's initial culture by creating it in an image reflective of their own values, beliefs, and assumptions). The role of leaders is not limited to culture formation. Leaders continue to play a critical role as an organization's lifecycle progresses. For example, leaders continue to maintain and to shape culture to remain adaptable over time (Schein, 2010), though the mechanisms through which leaders create and maintain culture are different (Trice & Beyer, 1991).

The study of organizational culture originates from anthropological studies and, later, qualitative studies within the organizational behavior domain (Denison, 1996). There have been numerous conceptualizations of organizational culture over the years. Some have viewed culture in terms of perceived practices (Hofstede, Neuijen, & Ohayv, 1990). Others have conceptualized culture as a profile representing the values held by those in an organization (O'Reilly, Chatman, & Caldwell, 1991) or as dimensions of values at the organizational or national culture levels (House, Hanges, Javidan, Dorfman, & Gupta, (2004). Values, in these instances, are descriptive rather than prescriptive in nature. Finally, culture has been viewed in terms of prescriptive values. For example, the Denison model (Denison & Mishra, 1995) was developed using a grounded-theory approach that identified culture traits related to effectiveness.

Relatively recent empirical studies have begun to establish the linkage between models of organizational culture and measures of organizational effectiveness (Denison, 1996; Hartnell, Ou, & Kinicki, 2011; G. Hofstede, Neuijen, Ohayv, & Sanders, 1990). The recent study by Chad Hartnell and colleagues (Hartnell et al., 2011) provides a comprehensive treatment of the linkage between organizational culture and effectiveness. Using meta-analytic techniques and the competing values framework of culture (Quinn, Cameron, Degraff, & Thakor, 2006; Quinn & Rohrbaugh, 1983), they found positive and varying relationships between different types of culture and employee attitudes, service quality, financial performance, and innovation. Sackmann (Sackmann, 2011) also provides an excellent review of the extant literature linking culture and performance.

Recent theoretical work by Hartnell and Walumbwa (Hartnell & Walumbwa, 2010) put forth a model that theoretically links leadership (using the FRLT) to culture. Bass and Avolio (Bass & Avolio, 1993) had previously linked culture and leadership using transformational and

transactional leadership by presenting a framework of culture derived from their theory of leadership. Hartnell and Walumbwa's work more specifically elucidates the relationship between the two. They used a multilevel framework to posit that leadership affects culture at different levels. Culture, they say, provides boundary conditions for the effectiveness of transactional leadership behaviors while also being malleable due to the behaviors of transformational leaders who set a broad vision and who shape culture through their behavior towards subordinates.

The importance of culture has been empirically well established. While the importance of the interplay between leadership and culture has been theoretically discussed at length, the field has only recently begun to empirically examine this relationship in relation to various effectiveness outcomes. Georgada and Xenikou (Georgada & Xenikou, 2007) and Sarros and colleagues (Sarros, Gray, & Densten, 2002) both found that transformational leadership predicted culture. Organizational culture has also been found to both moderate and mediate the relationship between leadership and performance. Kinicki and colleagues found that culture moderated the relationship between task and relational leadership and financial performance (Kinicki, Fugate, Hartnell, & Corner, 2012). Finally, Ogbonna and Harris (Ogbonna & Harris, 2002) found that the presence of certain types of culture mediated the relationship between leadership style and performance.

Thus, there has been some initial work taking context into account when considering leadership, as has been called for (Day, 2000). To date, however, much of this work has been focused on establishing basic linkages between leadership and culture. The conceptualizations of leadership and culture have also been varied in this stream of research, though they all empirically demonstrate that leadership and culture interact with one another. This variation, however, has led to a lack of a common framework through which to link both leader and culture

to other organizational outcomes. Burns, Kotrba, and Denison (Burns et al., 2013) suggest an alternative lens through which to examine this question. Rather than examining the simple relationships between culture and leadership or using culture as a moderator, as Kinicki and colleagues did, they suggest that the existing literature on person-environment fit provides both a theoretical framework and a theory-appropriate methodology to examine the fit between the leader and the culture.

### **Person-Environment Fit**

Person-environment fit describes how the compatibility between an individual and his or her work environment is an important factor in the individual's performance and well-being (Caplan, 1987). The importance of fit is best highlighted by Benjamin Schneider, who boldly called P-E fit one of the most dominant conceptual forces in the field (Schneider, 2001). Research has generally found that higher levels of fit between an individual and their environment positively predicts a range of positive organizational outcomes (Edwards & Rothbard, 1999; Kristof-Brown & Guay, 2011; Kristof-Brown, Zimmerman, & Johnson, 2005).

Evidence has also been found that suggests that a lack of compatibility, or misfit, can be harmful. Misfit has been linked to turnover (De Cooman et al., 2009) and counterproductive behaviors in the event that turnover does not occur (Wheeler, Gallagher, Brouer, & Sablynski, 2007).

Burns and colleagues suggest that a nuanced view of the fit between a leader and their organizational culture may provide a way to better examine the interplay between the two. They supplemented the chapter mentioned above by providing preliminary results in a conference presentation that showed initial evidence that the fit between a leader and their unit-level culture predicts effectiveness outcomes (Kotrba, Burns, & Denison, 2011) using a single organization

sample. A more recent piece advances this idea of fit to the fit between leaders and their national culture (Burns, Kotrba, Nieminen, & Denison, 2014). This recent work meaningfully positions L-C fit within the domain of person-environment fit, generally, and person-organization fit, specifically.

There are a number of decision points involved in examining P-E fit due to the vast number of conceptualizations and measures available. The first primary consideration is the type of fit to be examined (Kristof-Brown et al., 2005). That is, fit can be examined at a number of levels. Fit can be conceptualized broadly as a person's fit with their vocation (P-V fit). This fit focuses on how an individual's interests and values match with their chosen profession. In a similar vein, it can also be conceptualized more specifically as an individual's fit with their job (P-J fit). Person-job fit can focus either on whether individual's skills match with the job requirements or on whether the job meets an individual's needs and desires (Edwards, 1991). Person-group fit (P-G fit) examines the degree to which an individual is compatible with their work group or team (Kristof, 1996). Person-supervisor fit (P-S fit) is related to leader-member-exchange theory and focuses on value congruence, goal congruence, and personality similarity between an individual and their supervisor (Kristof-Brown et al., 2005). Finally, person-organization fit (P-O fit) focuses on an individual's fit with their organization, often focusing on value congruence between an organization and an individual, though there are many ways fit between a person and their organization can be conceptualized. Organizational culture has generally been excluded from examinations of P-O fit (Kristof-Brown et al., 2005).

There are also different typologies of fit and misfit that must be considered. These typologies conceptualize different ways fit can occur, rather than focusing on the level at which fit does occur. One approach focuses on whether the environment meets the needs and

preferences of an individual (needs-supplies), as well as whether an individual's abilities meet the demands of the environment (demands-abilities). A second perspective focuses directly on the degree of similarity between the person and environment, such as whether an individual's values are similar or dissimilar with an organization's values (Chatman, 1989). A third approach suggests that there are two types of fit: Complementary and supplementary (Kristof-Brown et al., 2005). Complementary fit occurs when an individual possesses a characteristic that the environment is lacking in or when an environment possesses a characteristic that an individual is lacking in. Supplementary fit, on the other hand, occurs when an individual is similar on a characteristic of interest to the environment. This can occur when both possess this characteristic or when it is lacking for both. It should be noted that these conceptualizations are not mutually exclusive. Instead, they simply reflect the different ways P-E fit is talked about within the literature.

There is also a host of methodological issues that must also be considered. First is whether to utilize direct or indirect measurement. That is, fit can be measured by making a direct assessment of compatibility between the person and the environment, or indirectly, by examining subjective or objective fit. Direct assessment is often measured by simply asking an individual whether they feel they fit with their environment or not. Subjective fit is assessed by comparing separate assessments of both person and environment variables reported by the same person, while objective fit is calculated by comparing these variables reported by different people. The second consideration is how to calculate fit when examining indirect measures of fit. While difference scores have been used there is considerable evidence that their usage is problematic (Edwards & Parry, 1993). Polynomial regression has been strongly advocated as a



methodological technique when examining subjective fit (Edwards & Parry, 1993; Kristof-Brown et al., 2005).

### **Fit, Leadership, & Culture**

The present study examines the joint effect of leadership and culture on performance (operationalized here as leadership effectiveness) by viewing leadership and culture from a fit perspective. L-C fit was recently proposed as a new construct due to its specificity and differentiation from other existing types of fit (Burns et al., 2013). Rather than focusing broadly on any individual, L-C fit focuses only on leaders. Rather than focusing on the environment, job, supervisor, or organization, L-C fit focuses on culture due to the unique importance of leaders to culture (Schein, 1985) and culture to an array of meaningful organizational outcomes (Hartnell et al., 2011). While culture can be conceptualized at a number of levels, including national, organizational, and group levels, the focus of this conceptualization and analysis is at the organizational level. Hence, the focus of this investigation is on a specialized form of person-organization fit (or P-O fit), characterized by the leader's fit with their organizational culture.

With leader-culture fit located within the P-O fit domain as a separate and distinguishable construct, the conceptualization of fit must also be considered. The present study considers L-C fit from a complementary and supplementary fit perspective using a prescriptive model of leadership and culture. As with previous work, the simple degree of fit may be important. Whether a leader and culture "fit" together on a given cultural dimension focuses on supplementary fit. Further, if a lack of fit were to exist, the direction of the misfit may have important implications. For example, higher ratings for a leader implies that the leader is more intense, or possesses more of an attribute than the culture, which in turn may have different effects than the culture being more intense than the leader. This type of fit takes a

complementary fit perspective. The importance and plausibility of these types of fit and misfit logically lend themselves to taking this complementary and supplementary fit perspective.

As noted earlier, recent theoretical work by Burns and colleagues (Burns et al., 2013) has positioned leader-culture fit within the P-O fit literature. Additional theoretical work has put forth a model of complementary and supplementary fit and their implications for coaching leaders using 360° feedback (Nieminen et al., 2013). Finally, initial empirical results using one organization and entry to middle level managers showed initial evidence that leader-culture fit has implications for perceived leader effectiveness (Kotrba, Burns, & Smerek, 2011). These results, however, were mixed and conceptualized fit (and misfit) broadly. Specifically, this study examined L-C fit within one organization. It was more exploratory and simply examined whether fit, of various types, impacted effectiveness. It did not, however, hypothesize about more complex relationships that can occur due to complementary or supplementary fit, nor did it examine any potential moderators of the fit and effectiveness relationship. Further, methodological issues (such as mean-centering the data) and the use of one organization limit the validity and generalizability of the findings. The present study extends this previous empirical and theoretical work by specifically examining the effect of fit and misfit across a broad organizational sample. Specifically, it tests whether 1) agreement between leader and culture predicts effectiveness (i.e., does effectiveness increase as leader and culture scores jointly increase?), 2) whether the degree of dissimilarity predicts effectiveness ratings, and 3) whether the direction of the dissimilarity predicts effectiveness.

## **CHAPTER 2 – HYPOTHESES**

The present study utilizes a multi-organizational sample to examine leader-culture fit and the implications for leader effectiveness. Jeff Edwards has written a considerable amount about

the necessary methodological requirements for conducting good fit research (Edwards, 1991; Edwards & Cable, 2009). In particular, he has noted that the two targets of fit must be conceptually similar and measured in similar ways. The present study utilizes parallel and commensurate measures of leader and culture, allowing for the assessment of fit using established and valid measures. Additionally, the use of polynomial regression (described below) allows for more nuanced hypotheses to be tested regarding agreement and the degree and direction of dissimilarity (Edwards & Parry, 1993; Shanock, Baran, Gentry, Pattison, & Heggstad, 2010). Given the three questions raised above, several hypotheses are proposed. It should be noted that these hypotheses should be interpreted from the perspective of a prescriptive, rather than a descriptive model, where “higher” ratings imply that the culture or leader are more positive and exhibit more of a positive characteristic. While there are numerous excellent leadership and culture measure that are descriptive (e.g., OCI, MLQ) the present study is focused on a prescriptive approach utilizing comparable measures that 1) have been linked to effectiveness separately and 2) are comparable to one another and thus consistent with the theoretical framing and methodological requirements of an L-C fit approach using polynomial regression.

Previous research has shown that more positive levels of both culture and leader ratings are predictive of positive outcomes (e.g., Denison & Mishra, 1995). Leader effectiveness is one example of an often used criterion, particularly in leadership studies (e.g., Judge, Bono, Ilies, & Gerhardt, 2002), as it relates to numerous other positive workplace outcomes (Hogan, Curphy, & Hogan, 1994). Given that, it is expected that higher joint leader and culture ratings will be related to higher perceived effectiveness ratings. Following the lead of leading culture researchers who have applied configural typologies to the study of culture (e.g., Denison & Mishra, 1995;

Hofstede, 1985; House, Javidan, & Dorfman, 2001), leader and culture ratings are put forth in the hypotheses along four configural dimensions (Involvement, Consistency, Adaptability, and Mission), rather than addressing culture as a single global phenomenon. While stated separately, the hypotheses remain the same for each dimension as a similar pattern of results is expected.

*Hypothesis 1a-d:* Leader effectiveness is higher when the perceptions of the leader and the culture are aligned and high than when they are aligned and low for (1a) Involvement, (1b) Consistency, (1c) Adaptability, and (1d) Mission.

The second question of the present study is concerned with the degree of misfit, or dissimilarity, between leader and culture. Dissimilarity is related to a number of negative workplace outcomes, such as turnover (De Cooman et al., 2009) and workplace deviance (Wheeler et al., 2007). As such, it follows that dissimilarity would also be negatively related to positive outcomes

*Hypothesis 2a-d:* Dissimilarity between leader and culture ratings is negatively related to leadership effectiveness, such that greater dissimilarity is related to lower leader effectiveness ratings for (2a) Involvement, (2b) Consistency, (2c) Adaptability, and (1d) Mission.

Additionally, it is likely that the direction of the dissimilarity impacts perceived leader effectiveness. That is, while dissimilarity may be negatively related to positive outcomes, the nature of the dissimilarity is important as well. Complementary fit (a form of dissimilarity) can exist when a leader is rated more highly than the culture or vice versa. The direction of this complementary fit has often been found to have differing implications (e.g., Edwards & Cable, 2009). Culture researchers have found that, in certain circumstances, differences between a leader and the culture may be positive if a leader possesses characteristics that can lead to

positive culture change (e.g., Trice & Beyer, 1991). Specifically, a leader can be viewed positively if they possess characteristics that the culture does not, allowing them to act as change agents to improve an organization's culture. Given the constructs examined here, it is logical to hypothesize that the leader being perceived more favorably than the culture would result in more positive outcomes than if the leader is perceived to be lacking in relation to the culture. In other words, the fit between a leader and culture is more complex than Hypotheses 2a-d would suggest. Rather than the mere degree of discrepancy, the direction of the discrepancy provides a more in depth explanation of the effect of fit on effectiveness.

*Hypothesis 3a-d:* Dissimilarity between leader and culture ratings is positively related to leader effectiveness when the leader is rated more highly than the commensurate culture ratings for (3a) Involvement, (3b) Consistency, (3c) Adaptability, and (3d) Mission.

The importance of leaders to an organization's culture has been well documented (e.g., Bass & Avolio, 1993; Schein, 1985; Schein, 2006). The position leaders (and founders of organizations) occupy in an organization's hierarchy allow for their vision and values to determine and maintain an organization's culture. Top leaders are considered to be the primary drivers in shaping and maintaining organizational culture (Davis, 1984).

Culture, then, is a reflection of the behaviors and actions of top-level leaders. It is clear that higher-level leaders have a unique effect and influence on culture that individuals who occupy lower leadership positions do not. Given that leaders have varying effects on an organization's culture due to their hierarchical level, it is logical to infer that the importance of fit between a leader and the culture may also vary depending on the level of the leader. A

discrepancy between a top leader and their culture is likely to be more salient and more important than a discrepancy between a lower-level leader and the organization's culture. Thus, leader level is likely to moderate the relationship between fit and effectiveness, with stronger effects found when the leader is at a higher level in the organization.

*Hypothesis 4a-d:* Leader level moderates the relationship between fit and effectiveness, such that the effect of dissimilarity is larger for leaders who are higher in an organization's hierarchy for (4a) Involvement, (4b) Consistency, (4c) Adaptability, and (4d) Mission.

### **CHAPTER 3 - METHOD**

Archival data were used to examine the relationship between leader and culture fit on leader effectiveness. Specifically, measures of organizational culture, leadership, and leader effectiveness were drawn from a broader database at Denison Consulting, a firm that specializes in leadership and organizational culture assessments. Polynomial regression analyses and response surface methodology were conducted to assess the nuanced relationship of the fit between leaders and their organizational culture and ratings of leader effectiveness.

#### **Participants**

Focal leaders were individuals in varying leadership positions within their organizations ( $n_{\text{leaders}} = 1121$ ,  $n_{\text{organizations}} = 66$ ). Organizations had between one leader and 165 leaders within them. Participants self-identified their hierarchical level as well. The initial sample included line management ( $n = 291$ ), middle management ( $n = 321$ ), senior management ( $n = 315$ ), executives and senior vice presidents ( $n = 148$ ), and owners, presidents, or CEOs ( $n = 46$ ). Data were screened for missing values and outliers (defined as having a z-score greater than or less than  $\pm 3.29$ ). The data were further screened to ensure that the leader and culture assessments were taken within one year of the other to prevent potential confounds related to timing. Ultimately,

the sample utilized consisted of 1070 leaders within 60 organizations. The final sample had 275 line managers, 310 middle managers, 299 senior managers, 142 executives and vice presidents, and 44 CEOs, owners, or presidents. The number of raters per leader ranged from one to 51, with an average of 5.62.

## Measures

### Denison organizational culture survey.

Members within each organization completed the Denison Organizational Culture Survey (DOCS). The DOCS is an organizational culture assessment based on a model of culture that has been developed from a stream of research linking organizational culture and effectiveness (Denison, 1984; Denison, Haaland, & Goelzer, 2003; Denison & Mishra, 1995; Fey & Denison, 1998) and focuses directly on those aspects of organizational culture that have been shown to influence organizational performance. See Figure 1 for the culture model.

The DOCS measures four culture traits (*involvement, consistency, adaptability, and mission*) that are each made up of three indexes containing five items each. Items are rated on a five-point Likert-type scale (1 = Strongly Disagree, 5 = Strongly Agree). Scores are computed as percentiles based on previously established norms. Analyses were conducted at the trait level in this study. See Table 1 for a detailed description of the four traits and twelve indexes

The *Involvement* dimension assesses the extent to which employees are developed, committed to their work, and feel a sense of ownership. Highly involved organizations create a sense of ownership and responsibility. Commitment to the organization and an increased capacity for autonomy can grow out of this sense of ownership. Example items include: “Most employees are highly involved in their work”, “People work like they are a part of a team”, and “There is continuous investment in the skills of employees”. The three indexes within

*Involvement* are *Empowerment*, *Team Orientation*, and *Capability Development*. *Empowerment* refers to an employees' involvement in both the work and in decision-making. *Team Orientation* is the degree to which teamwork is encouraged so that creative ideas are captured and employees support one another in accomplishing work goals. *Capability Development* includes training, coaching, and providing employees with exposure to new roles and responsibilities to better develop their skills. High levels of *Capability Development* would suggest that the development of human resources is a source of competitive advantage.

The *Consistency* trait refers to the level of cohesion, integration or agreement around values and norms. Consistency provides a central source of integration, coordination and control, and helps organizations develop a set of systems that create an internal system of governance based on consensual support. Example items include: "Leaders and managers practice what they preach", "There is a 'strong' culture", and "It is easy to coordinate projects across different parts of the organization". The three indexes within *Consistency* are *Core Values*, *Agreement*, and *Coordination & Integration*. *Core Values* reflects the existence of a clear set of shared principles and ethical behaviors that help employees and leaders make consistent decisions. *Agreement* is the degree to which organizational members can engage in dialog and reach consensus when difficult issues and problems arise. *Coordination & Integration* refers to the alignment and coordination across the entire organization, so that employees understand how the work they do impacts others to ensure that work is coordinated to serve the organization as a whole.

*Adaptability* is the organization's capacity for internal change in response to external conditions. It assesses the extent to which the organization is oriented toward learning from its competitors and customers and has practices and procedures that promote flexible and adaptive responses. High performing organizations have the ability to perceive and respond to the



environment, customers, and restructure and re-institutionalize behaviors and processes that allow them to adapt. Example items include: “The way things are done is very flexible and easy to change”, “All of us have a deep understanding of customer wants and needs”, and “We view failure as an opportunity for learning and improvement”. The three indexes for *Adaptability* are *Creating Change*, *Customer Focus*, and *Organizational Learning*. *Creating Change* refers to an organization’s flexibility to change work practices and encompasses the welcoming of ideas, willingness to try new approaches, valuing change as a part of the way the organization does business. *Customer Focus* is the extent to which employees listen and adapt to the marketplace and are able to serve both internal and external customers. *Organizational Learning* is the degree to which the organization encourages risk-taking and learning as part of the broad organizational objectives, encouraging employees to take “thoughtful risks” in order to learn from both successes and failures.

Finally, the *Mission* dimension assesses whether the organization has a clearly articulated vision and strategic direction that provides context for action and goals against which progress can be tracked. High performing organizations have a mission that tells employees why they are doing the work they do, and how the work they do each day contributes to the why. Example items include: “There is a long term purpose and direction”, “There is widespread agreement about goals”, and “Leaders have a long-term viewpoint”. *Mission* encompasses three indexes: *Strategic Direction & Intent*, *Goals & Objectives*, & *Vision*. *Strategic Direction & Intent* is the degree to which an organization has long-term strategies that are both visible and easily connected to daily activities. *Goals & Objectives* refers to the existence of short-term and specific goals used to drive employee achievement in a way that is connected to the broader strategy and vision. Finally, *Vision* is the degree to which an organization has a clear desired

“future state” and reflects the broader purpose of the organization as a whole.

Previous validity and reliability studies have demonstrated evidence supporting the DOCS. Denison, Nieminen and Kotrba (Denison, Nieminen, & Kotrba, 2012) assessed the factor structure of the measure using data from over 35,000 employees from 160 different organizations. They found support for the proposed four factor structure. In addition, other researchers have also validated the scale across different samples in different industries and countries (Gomez & Ricardo Bray, 2009; Yilmaz & Ergun, 2008). Denison and colleagues (Denison et al., 2012) report that reliability for the twelve indexes ranged from .70 to .85, well within acceptable range (Nunnally, 1978).

The subsequent culture scores will be aggregated to the organization level in order to match them with scores on the Denison Leadership Development Survey. While the data is clustered, there are, at the moment, no established methodological techniques to account for non-independent data within the polynomial regression framework. Thus, the results of this study must be interpreted with the violation of the assumption of normality in mind.

### **Denison leadership development survey.**

Leaders, peers, subordinates, and supervisors completed the 96-item Denison Leadership Development Survey (DLDS), rating their leader as the target using a seven-point agree-disagree scale (1 = strongly disagree, 7 = strongly agree). Self-ratings were not examined due to their documented potential for self-inflation (e.g., Harris & Schaubroeck, 1988; Mabe & West, 1982). Ratings on the DLDS were averaged to form a combined others rating.

The DLDS is a 360° assessment of leadership effectiveness that is based on the four traits of Denison and Neale’s (1996) leadership framework. The model utilizes indexes and traits that are in parallel with the DOCS and is designed as a diagnostic tool that provides leaders and

managers with feedback on a set of twelve leadership skills and practices that can impact organizational performance (see Table 1 for a detailed description of the twelve traits and indexes). These traits, however, are framed to provide multisource (360°) feedback to a leader for developmental purposes, rather than being framed as a way to assess the organizational culture. That is, while the DLDS uses the same model as the DOCS, the purpose is quite different.

With this framing, the *Involvement* trait posits that leaders who create high involvement organizations encourage employee development and participation. By promoting employee collaboration, they can rely on voluntary effort rather than formal, bureaucratic directives. Example items include: My leader “Encourages others to take responsibility”, “Fosters teamwork within the work unit”, and “Coaches others in the development of their skills”.

The *Consistency* trait suggests that a consistent leader provides a central source of integration, coordination and control, and helps organizations develop a set of systems that create an internal system of governance based on consensual support. Example items include: My Leader “Lives up to promises and commitments”, “Helps people to reach consensus, even on difficult issues”, and “Makes certain that things do not fall between the cracks”.

The *Adaptability* trait posits that adaptable leaders encourage employees to receive and interpret signals from the environment and to translate them into internal changes that increase the chances for survival, growth, and development. Example items include: My leader “Challenges organizational practices that are nonproductive”, “Actively seeks feedback from customers”, and “Creates a working environment in which learning is an important objective”.

Finally, the *Mission* dimension suggests leaders impact an organization’s mission by communicating a sense of purpose for employees and defining a clear direction. Effective leaders

align the mission and goals for their functional areas to those of the organization. Example items include: My leader “Effectively allocates resources in line with strategic priorities”, “Establishes high standards for performance”, and “Inspires others with his/her vision of the future”.

Previous studies have demonstrated evidence for the validity and reliability of the DLDS. Confirmatory factor analyses found support for the proposed latent traits (Involvement, Consistency, Adaptability, and Mission). Further, the subsumed twelve indexes within the model fit their overarching traits (Denison, Nieminen, & Kotrba, 2012).

Hierarchical level was self-identified as a demographic variable as part of the DLDS. This categorical variable was used as the moderator between fit and effectiveness.

### **Denison general leadership effectiveness survey (DGLES).**

All subordinates, peers, and supervisors completed the Denison General Leadership Effectiveness Survey (DGLES), rating their leader as the target. The DGLES is not commensurate with either the DOCS or the DLDS. Rather, it is a separate measure of effectiveness. The DGLES is a 7-item index of leadership effectiveness that assesses behaviors that are indicative of effective leadership. The DGLES is scaled on a 1-to-7 Likert-type scale (1 = strongly disagree, 7 = strongly agree). An example item is: “Overall, this individual is a highly effective leader”. Ratings from supervisors, subordinates, and peers on the DGLES scores were averaged to form a scale DGLES score for the dependent variable.

### **Procedure**

The present study relied upon archival data from Denison Consulting. Specifically, the data used here are combined others (peers, subordinates, and supervisors) ratings of the perception of their leader (on the DLDS) and their perceptions of their leaders effectiveness (on the DGLES). Culture data on the DOCS consisted of the combined others ratings of the

organizational culture; that is, the aggregated individual scores across traits. Culture data on the DOCS was transformed to a 7-point Likert-type scale to allow it to be directly compared to DLDS data. Across all leaders, Denison Consulting collected ratings via a secure internet-based survey. This type of data is routinely collected by Denison as part of its consulting practice concerning organizational leadership and culture development.

To qualify for inclusion, leaders with ratings on the DLDS and DGLES were selected. Corresponding organizational level culture data on the DOCS is also necessary for inclusion. The final data set consisted of leaders with combined others DLDS ratings, organization level culture data on the DOCS, and DGLES ratings. Additionally, the culture and leadership ratings needed to have been collected within one year of each other to maximize the comparability between a leader and their culture.

### **Analytic Strategy**

The present study utilized polynomial regression and response surface methodology to test the above hypotheses. Historically, difference scores and profile similarity indexes have been utilized to examine “fit” and “misfit” within the organizational behavior domain. Polynomial regression and response surface modeling has begun increasing in popularity, however, in response to the various pitfalls that these methods present (see (Edwards, 1995), for a review of these issues). This technique has been applied to areas of study such as self-other rating discrepancies (e.g., Ostroff, Atwater, & Feinberg, 2004) and various conceptualizations of fit (e.g., Edwards & Cable, 2009). Similarly, the present study proposes to use this technique to examine fit within the leader-culture framework.

### **Summary of polynomial regression and response surface methodology**

Rather than calculate a mathematical difference between leader and culture scores, polynomial regression instead utilizes combinations (e.g., quadratic, cubic, etc.) between the two predictors of interest to determine how fit (or misfit) is related to an outcome variable (Edwards & Parry, 1993). Follow-up response surface modeling positions these findings within a three dimensional space, allowing for a more nuanced view of the regression analyses.

This technique can be used to answer questions about agreement and discrepancy, both in degree and in direction (Shanock et al., 2010). Questions of agreement focus on predictors that are rated similarly together and whether their agreement predicts an outcome variable. For example, similarity between self-reported values from an individual and the individual's perceived values of the organization can predict performance, such that performance increases as both actual and perceived values increase together. Questions of discrepancy are similar, but focus on both the degree of discrepancy and the direction. The degree of discrepancy is used to predict outcome variables. For example, increasing divergence between self-reported and perceived organizational values has been shown to predict a wide range of organizational outcomes (e.g., Edwards & Cable, 2005). Finally, the direction of the discrepancy allows a researcher to determine if having one predictor that is higher than the other predicts an outcome of interest in a different way than if the other predictor was higher. For example, having lower self-reported values than perceived organizational values may affect satisfaction differently than having lower perceived organizational values than self-reported values.

The confirmatory approach to this method states that a difference score model must first be selected. Following both theory and previous research, the squared difference model is specified for all analyses in this study. The conditions imposed by this model must be tested

prior to interpreting the results. The first condition is that the variance explained by the specified model differs from zero. The second condition is that the regression coefficients must be significant and in the expected direction. The third condition is that the constraints imposed upon the specified model are satisfied. Finally, the fourth condition is that a model with terms that are one-step greater than the specified model does not explain significantly more variance than the specified model. While these conditions must be tested, Edwards (e.g., Edwards & Parry, 1993) notes that the conditions rarely are met using empirical data. Substantive interpretation is thus left to the response surface methodology.

The squared difference model utilizes the following equation, which is also used to visually model the three-dimensional surface to be interpreted.

- $Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2 + e$ 
  - $Z = \text{Outcome}$
  - $X = \text{First predictor}$
  - $Y = \text{Second predictor}$

In the present study, hierarchical level is also used as a moderator. Thus, the equation changes to the following:

- $Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2 + b_6V + b_7XV + b_8YV + b_9X^2V + b_{10}XYV + b_{11}Y^2V + e$ 
  - $Z = \text{Outcome}$
  - $X = \text{First predictor}$
  - $Y = \text{Second predictor}$
  - $V = \text{Moderator}$

The results of these equations are utilized to model the three-dimensional response surface that is then interpreted. There are several key components of interest to examine in the response surface modeling part of the analysis that allow for a quantitative interpretation of the three-dimensional surface. These components were used to test the hypotheses in the present study.

Two lines, the line of agreement ( $X = Y$ ) and the line of incongruence ( $Y = -X$ ) form the basis of the graph. The slope of the line of perfect agreement illustrates how agreement relates to the outcome. Specifically, a significant positive slope indicates that  $Z$  (leader effectiveness) is higher when  $X$  (leader ratings) and  $Y$  (culture ratings) are aligned and higher and, correspondingly, that  $Z$  is lower when  $X$  and  $Y$  are aligned and lower. An additional test is conducted along the line of perfect agreement to test for curvature: A significant test indicates that the relationship between the two aligned predictors with the outcome is nonlinear.

The line of incongruence ( $Y = -X$ ) is perpendicular to the line of perfect agreement and represents the predictor variables when they are not in agreement. The test for curvature along this line indicates the degree to which discrepancy between the two predictors influences the outcome. For example, a significant negative test of curvature indicates that as  $Z$  decreases as  $X$  and  $Y$  become increasingly discrepant. The slope of the line of incongruence illustrates the extent to which the direction of the discrepancy matters. A significant positive slope on the line of incongruence would, for example, indicate that  $Z$  is higher when the scores are discrepant, such that  $X$  is higher than  $Y$ . A significant negative slope, on the other hand, would indicate that  $Z$  is higher when scores are discrepant and  $Y$  is higher than  $X$ .

The significance tests along the response surface are derived from testing separate compound terms representing surface values. The surface coefficient  $a_1$  tests the slope of the line



of agreement. The surface coefficient  $a_2$  tests the curvature of the line of agreement. The surface coefficient  $a_3$  tests the slope of the line of incongruence. Finally, the surface coefficient  $a_4$  tests the curvature along the line of incongruence. The equations for the coefficients are presented below. Significance was determined by testing the  $t$ -statistic associated with the coefficient, which was derived from the  $a$  coefficient and standard error. Bootstrapping was not considered a necessity for testing these four combinations of coefficients as they are all linear combinations. Bootstrapping is recommended when examining surface points that are made up of nonlinear combinations of regression coefficients (Edwards, 2002). The following equations represent the coefficients examined.

- $a_1 = b_1 + b_2$
- $a_2 = b_3 + b_4 + b_5$
- $a_3 = b_1 - b_2$
- $a_4 = b_3 - b_4 - b_5$

### **Use in the present study**

As noted earlier, this technique can be used to answer questions about agreement and discrepancy, both in degree and in direction (Shanock, et al., 2010). As illustrated in the hypotheses, the present study is focused on both agreement (Hypotheses 1a-d) and the degree (Hypotheses 2a-d) and direction of discrepancy (Hypotheses 3a-d). The present study initially tests the squared difference equation and the conditions necessary for this methodology. Response surface methodology was conducted when there was sufficient evidence to support the use of the squared difference model.

In the present study, leader (DLDS) and culture (DOCS) scores on each trait were utilized as predictors while an average rating of leader effectiveness, as rated by combined others,

served as the outcome variable (DGLES). In general terms, DLDS scores served as the X variable, DOCS scores served as the Y variable, and DGLES scores served as the Z variable. The proposed moderator, hierarchical level, was represented by the variable V.

The first hypotheses were concerned with agreement. That is, the interest here was if DGLES ratings increase as leader (DLDS) and culture (DOCS) ratings jointly increase. A significance test on the  $a_1$  surface coefficient tested this hypothesis. A significant positive slope would support Hypotheses 1a-d. See Figure 2 for an example figure that would support Hypotheses 1a-d. This figure illustrates how Z increases as X and Y increase along the line of perfect agreement.

Hypotheses 2a-d posited that more discrepancy between the DLDS and the DOCS leads to more negative effectiveness ratings. A significance test on the  $a_4$  surface coefficient tested these hypotheses. A significant negative curvature indicates that leader effectiveness decreases as the amount of discrepancy between the leader (DLDS) and culture (DOCS) increases. See Figure 3 for a figure that illustrates a very strong relationship between Z and the discrepancy between X and Y.

Hypotheses 3a-d focused on the direction of the discrepancy between DLDS and DOCS scores. It suggests that the direction of the discrepancy matters, such that DGLES ratings will be higher when DLDS scores are higher than DOCS scores. The surface coefficient  $a_3$  was used to test these hypotheses. Specifically, a significant positive slope indicates that effectiveness is higher when the DLDS is higher than the corresponding DOCS. See Figure 4 for a graphical representation of a surface that would support Hypotheses 3a-d, where the Z is high when Y is greater than X and Z is low when X is greater than Y. Conversely, a significant negative slope

indicated that effectiveness is higher when DOCS ratings are higher than the corresponding DLDS ratings. A significant negative slope would not support Hypothesis 3a-3d.

The moderating effect of hierarchical level on the degree of discrepancy was also examined to test Hypotheses 4a-d. A significant  $R^2$  change (compared to the initial squared difference equation) provides evidence of moderation. If moderation was found, then the squared difference equation was analyzed at each level of the moderator. Significant simple effects were graphed and the  $a_4$  coefficient was at each significant level of the moderator when evidence was found for moderation.

## CHAPTER 4 – RESULTS

### Preliminary Analyses

Descriptive statistics for the leader and culture traits and the leader effectiveness scale are presented in Table 2. Correlations between the constructs are presented in Table 3. The correlation between the corresponding leader and culture traits was small ( $r = .20$ ). The correlation between the four leader traits and the perceived leader effectiveness ratings was quite high ( $r = .82$ ), while the correlation between the four culture traits and the perceived leader effectiveness ratings was also low ( $r = .10$ ).

Both Edwards (Edwards, 2002) and Shanock (Shanock et al., 2010) have noted the importance of determining the amount of discrepancy between predictors in one's data prior to conducting analyses given that discrepancy is one of the fundamental necessities of this analytic technique. Accordingly, standardized scores were used to calculate the amount of discrepancy. Any participant with scores a half standard deviation above or below the commensurate predictor was considered to be discrepant (Fleenor, McCauley, & Brutus, 1996). Table 4 summarizes the

percentages of the sample that had higher DOCS scores than DLDS scores, similar scores, or higher DLDS scores than DOCS scores. These percentages are summarized for each trait.

Agreement statistics were calculated prior to aggregation at the leader and culture levels, respectively.  $r_{wg(j)}$  was computed as an index of agreement based on deviation from the uniform response distribution (James, Demaree, & Wolf, 1984). Across leader traits, mean  $r_{wg(j)}$  ranged from .75 to .81. Values greater than .70 have generally been recognized as sufficient response consistency to justify aggregation to the group level (e.g., Klein et al., 2000). ICC(1) and ICC(2) were computed as indices of reliability. ICC(1) values ranged from .18 to .19. ICC(2) values ranged from .54 to .57 (Bryk & Raudenbush, 1989). Overall, the aggregation statistics provided support for the aggregation of combined other ratings to the leader level.

These analyses were also conducted for culture ratings. Across culture traits, mean  $r_{wg(j)}$  ranged from .94 to .95. ICC(1) and ICC(2) were computed as indices of reliability. ICC(1) values ranged from .13 to .14. ICC(2) values were all .99. Overall, the aggregation statistics provided support for the aggregation to the culture level.

In addition to determining the amount of discrepancy and agreement it is also critical to examine the conditions imposed by the chosen model prior to examining the response surfaces. Given the theoretical rationale described above, a squared difference model was specified a priori. The four conditions imposed on the squared difference model were tested prior to modeling the surface for each of the four traits. The first condition tested was whether the overall unconstrained squared difference model explained a significant amount of variance in the dependent variable. The second condition tested whether the five coefficients in the quadratic model were significant and in the expected direction. The third condition tested whether the unconstrained squared difference model explained significantly more variance than the

constrained equation squared difference model. This condition is supported when the unconstrained model does not explain significantly more variance. Similarly, the fourth condition tested whether the cubic model explained significantly more variance than the squared difference model. In this particular case, support is provided for the quadratic model when the cubic model does not explain significantly more variance. These conditions were tested on each of the four quadratic models corresponding to the four traits. The evidence supporting these models is detailed below and response surface modeling was subsequently undertaken to provide a more nuanced view of the relationship between leader and culture on leader effectiveness. Despite a lack of complete support, current best practices suggest that modeling the response surface is still appropriate when testing research hypotheses using an a priori model.

### **Polynomial Regression Results**

The polynomial regression results for the four traits were examined separately prior to modeling the response surfaces. The overall quadratic equation for *Involvement* was significant ( $R^2 = .653, p < .001$ ), providing support for the first condition. Only two predictors were significant (see Table 5). The second condition was therefore not supported. The third condition was also not supported, as the unconstrained quadratic model for *Involvement* did explain more variance than the constrained quadratic model. The fourth condition was supported, however, as the cubic model did not explain significantly more variance than the unconstrained quadratic model. See Table 6 for an overview of the model comparisons for all four traits. In summary, conditions one and four were supported for *Involvement* while conditions two and three were not.

The overall quadratic equation for *Consistency* was also significant ( $R^2 = .679, p < .001$ ). As with *Involvement*, only two coefficients were significant in the overall model. The unconstrained model also explained more variance than the unconstrained model. Finally, the

cubic model did not explain significantly more variance than the unconstrained quadratic model. In summary, the first and fourth conditions were met while the second and third were not.

The quadratic equation for *Adaptability* was significant as well ( $R^2 = .600, p < .001$ ), providing support for the first condition. Only two coefficients were significant in this model however. Additionally, the unconstrained quadratic model explained significantly more variance than the quadratic model. The cubic model did not explain more variance than the quadratic model. In summary, the first and fourth conditions were supported while the second and third were not.

Finally, the model for *Mission* was significant ( $R^2 = .581, p < .001$ ), supporting the first condition. The second and third conditions were not supported. Specifically, only two coefficients were significant in the model and the unconstrained model explained significantly more variance than the constrained model. The cubic model did not explain significantly more variance than the unconstrained quadratic model. As with the other three traits, the first and fourth conditions were supported while the second and third were not.

The pattern for all four models was identical. The first condition was met for each trait, as each quadratic model predicted a significant amount of variance. Only two coefficients in each model (the intercept and the leader's ratings) were significant. As a result, the second condition was not supported for any of the models. Table 5 summarizes the results for the first two conditions. The third condition was also universally not supported. Specifically, the constraints imposed by the squared difference model were rejected for all four traits. The fourth condition was, however, met for all the models. The cubic models did not explain significantly more variance than the unconstrained squared difference models for any of the traits. Table 6 summarizes the results for the third and fourth condition. Despite the mixed support for the four

conditions, response surface modeling was undertaken to test the proposed hypotheses it is uncommon for all four conditions to be met (Edwards, 2002).

### **Initial Surface Interpretation**

While the substantive interpretation of the surfaces is conducted via the coefficients mentioned above it is useful to examine the overall shape of the surface as well. The surfaces depicted in Figures 5-8 represent the surfaces for the four traits that were tested. These surfaces all show a similar pattern that deviates from the examples given in Figures 2-4. The example surfaces in Figures 2-4 demonstrated constrained models to illustrate the “ideal” shape, as they related to the hypotheses. These constrained models are rarely seen in empirical data (Edwards, 2002), though they do offer instructive value when examining and comparing surfaces derived from empirical data. The figures shown in the data here are most like Figure 4, where the direction of the discrepancy drives the shape. Figures 5-8 are, however, even more pronounced, suggesting that the ratings of the leader are critical factor for leader effectiveness. It should be noted that it is possible to have significant findings along the line of agreement and incongruence (see Hypotheses 1a-d and 2a-d) despite the fact that the shape is not reflective of the “ideal” displayed in Figures 2-4.

Figures 9 through 13 represent the surfaces at each hierarchical level for involvement. Figures 11-13 have shapes that are most reflective of Figure 4, as the previous surfaces have exemplified. Figure 9 is more akin to Figure 2 (although it is inverted in comparison), where the slope along the line of congruence is one of the primary driving factors, along with a symmetric curvature along the line of incongruence. Finally, Figure 10 has an unusual shape that has both a pronounced curvature along the line of incongruence (akin to Figure 3) while also showing a slope along this line that suggests the direction matters as well. This qualitative look at the

surfaces provides the basis for initial conclusions regarding the data. Stringent hypothesis testing utilizing the coefficients above was used to determine whether these qualitative conclusions were statistically supported.

### **Hypotheses 1a-d**

The first hypothesis, that leader effectiveness is higher when the perceptions of the leader and the culture are aligned and higher and that leader effectiveness is lower when the perceptions of the leader and the culture are aligned and lower, was tested by examining the slope along the line of agreement ( $Y=X$ ) for all four traits. The coefficient  $a_1$  represents this slope and was the coefficient tested for significance. A significant positive coefficient would suggest that effectiveness is higher as the perceptions of the leader and culture are aligned and higher (and, conversely, that effectiveness is lower when the perceptions of the leader and culture are aligned and lower). This would provide support for Hypothesis 1. A significant negative coefficient would suggest that effectiveness is lower when the perceptions of the leader and culture are aligned and higher (and, conversely, that effectiveness is higher when the perceptions of the leader and the culture are aligned and lower). A significant negative coefficient would not provide support for the first hypothesis. These coefficients are presented in Table 7 for all models.

The coefficient of the slope along the  $Y=X$  line,  $a_1$ , was significant for *Involvement* ( $a_1 = 1.19, t = 4.51, p < .001$ ). The significance of this coefficient indicates that leader effectiveness is indeed higher when the perceptions of the leader and culture are aligned and high on *Involvement* and leader effectiveness is lower when the perceptions of the leader and culture are aligned and low on *Involvement*. Figure 5 represents the response surface for *Involvement*.



The coefficient of the slope along the  $Y=X$  line,  $a_1$ , was significant for *Consistency* ( $a_1 = 1.42, t = 6.15, p < .001$ ). The significance of this coefficient indicates that leader effectiveness is higher when the perceptions of the leader and culture are aligned and high on *Consistency* and leader effectiveness is lower when the perceptions of the leader and culture are aligned and low on *Consistency*. Figure 6 represents the response surface for *Consistency*.

The  $a_1$  coefficient was also significant for *Adaptability* ( $a_1 = 1.36, t = 6.69, p < .001$ ). This significant slope indicates that leader effectiveness is higher when the leader and culture are aligned and high on *Adaptability* and leader effectiveness is lower when the perceptions of the leader and culture are aligned and low on *Adaptability*. Figure 7 represents the response surface model for *Adaptability*.

Finally, the  $a_1$  coefficient representing the slope at the line of agreement was significant for *Mission* ( $a_1 = 0.92, t = 4.49, p < .001$ ). As with the other traits, this significant slope indicates that leader effectiveness is higher when the leader and culture are aligned and high on *Mission* and leader effectiveness is lower when the perceptions of the leader and culture are aligned and low on *Mission*. Figure 8 represents the response surface for *Mission*.

The results across traits consistently provide evidence that slope along the line of congruence is significant, thereby supporting Hypotheses 1a-d. In substantive terms, these findings show that leader effectiveness is higher when the perceptions of the leader and culture are aligned and higher. Following the line of congruence, leader effectiveness is also lower when the perceptions of the leader and culture are aligned and lower.

### **Hypotheses 2a-d**

The curvature along the line of incongruence ( $Y=-X$ ), as represented by the  $a_4$  coefficient, was examined to test the second hypothesis, which stated that a greater degree of dissimilarity

between the perceptions of the leader and their culture is negatively related to leader effectiveness for all traits, respectively. A significant and negative  $a_4$  coefficient would indicate that effectiveness decreases as the degree of dissimilarity increases and would thus provide support to the second hypothesis. A significant and positive  $a_4$  coefficient would indicate that effectiveness increases as the degree of dissimilarity increases. This would not provide support for the second hypothesis.

The  $a_4$  coefficient was not significant for *Involvement* ( $a_4 = -.04$ ,  $t = -.31$ ,  $p = .760$ ), *Consistency* ( $a_4 = -.12$ ,  $t = -.69$ ,  $p = .491$ ), *Adaptability* ( $a_4 = -.14$ ,  $t = .52$ ,  $p = .603$ ), or *Mission* ( $a_4 = -.15$ ,  $t = -.79$ ,  $p = .428$ ). This pattern of non-significant results provides evidence that the degree of dissimilarity between the perceptions of the leader and their culture does not impact perceived leader effectiveness. No support was found for Hypotheses 2a-d.

### **Hypotheses 3a-d**

The third hypothesis stated that the direction of dissimilarity between perceptions of the leader and the culture will predict leader effectiveness, such that effectiveness will be higher when the leader is both dissimilar and rated more highly than the culture. This hypothesis was tested for all four traits by examining slope at the line of incongruence ( $Y=-X$ ), as represented by the  $a_3$  coefficient. A significant and positive  $a_3$  coefficient would indicate that leader effectiveness is higher when the perceptions of the leader are higher than the perceptions of the culture, thereby providing support for this hypothesis. A significant and negative  $a_3$  coefficient would indicate that leader effectiveness is higher when the perceptions of the culture are higher than the perceptions of the leader, thereby providing no support for Hypothesis 3.

The coefficient of the slope along the  $Y=-X$  line,  $a_3$ , was significant for *Involvement* ( $a_3 = 1.13$ ,  $t = 5.27$ ,  $p < .001$ ). The significant slope along the  $Y=-X$  line indicates that leader

effectiveness is higher when the perceptions of the leader are higher than the perceptions of the culture. Conversely, effectiveness is low when the culture is rated more highly than the leader.

The  $a_3$  coefficient was positive and significant for *Consistency* ( $a_3 = 1.28$ ,  $t = 5.36$ ,  $p < .001$ ). This coefficient suggests that leader effectiveness is highest when the leader is rated higher than the culture on *Consistency*.

The  $a_3$  coefficient was also positive and significant for *Adaptability* ( $a_3 = 1.68$ ,  $t = 6.40$ ,  $p < .001$ ) and *Mission* ( $a_3 = 0.95$ ,  $t = 4.25$ ,  $p < .001$ ). The pattern of results across all four traits indicates that the direction of the dissimilarity between leader and culture perceptions matters for perceptions of leader effectiveness. Specifically, leaders are rated more highly on effectiveness when they are rated more perceived as more capable than their culture on the four traits. These findings provide support for Hypotheses 3a-d.

#### **Hypotheses 4a-d**

The hierarchical level of the leader was hypothesized to moderate the relationship between leader and culture perceptions and leader effectiveness for all four traits. Specifically, the degree of dissimilarity between leader and culture perceptions was hypothesized to matter more for leader effectiveness when the leader was at a higher hierarchical level.

An additional moderator term was added to the squared difference model, as described earlier, for all four traits. This expanded moderation model was compared to the unconstrained squared difference model described above to test for moderation. An  $F$ -test for the change in  $R^2$  was conducted for each trait, where a significant change would provide evidence for moderation.

Evidence for moderation was found for *Involvement*, ( $F(995,1001) = 6.45$ ,  $\Delta R^2 = .02$ ,  $p < .05$ ). No evidence was found for moderation for the other three traits (see Table 8). The squared difference model was examined at each level of the moderator to begin to interpret the

findings. The squared difference model was significant for Line Management ( $R^2 = .71, p < .001$ ), Middle Management ( $R^2 = .71, p < .001$ ), Senior Management ( $R^2 = .67, p < .001$ ), Executive and Senior Vice Presidents ( $R^2 = .70, p < .001$ ), and Owners, Presidents, and CEO's ( $R^2 = .67, p < .001$ ). Table 9 presents these omnibus results in greater detail. Response surface models were graphed for all five levels due to the significant omnibus results to test Hypotheses 4a-d.

The curvature at the line of incongruence, represented by the  $a_4$  coefficient, was examined on all four traits to test Hypotheses 4a-d. As with Hypotheses 2a-d, a significant and negative  $a_4$  coefficient would indicate that effectiveness decreases as the degree of dissimilarity increases, whereas a significant positive  $a_4$  coefficient would indicate that effectiveness increases as the degree of dissimilarity increases. Unfortunately, there is currently no basis to test the magnitude of the coefficients against each other. Instead, basic significance testing will be relied upon to provide evidence for Hypotheses 4a-d. Table 7 presents these results.

The response surface for *Line Manager Involvement* (see Figure 9) showed a significant  $a_4$  coefficient ( $a_4 = .82, t = 4.41, p < .001$ ). This significant coefficient indicates that effectiveness increases as the degree of dissimilarity increases. While not part of the formal hypotheses, the  $a_1$  and  $a_3$  coefficients were also examined. There was a significant  $a_1$  coefficient for *Line Manager Involvement* ( $a_1 = 2.02, t = 6.50, p < .001$ ), indicating that effectiveness was higher when the leader and the culture were in agreement and were highly rated. The  $a_3$  coefficient was not significant ( $a_3 = .01, t = 0.02, p = .982$ ).

The  $a_4$  coefficient for *Middle Manager Involvement* was not significant ( $a_4 = -.22, t = -1.08, p = .280$ ). The response surface model for *Middle Manager Involvement* is shown in Figure 10. The  $a_1$  coefficient was significant ( $a_1 = 1.53, t = 4.31, p < .001$ ), though the  $a_3$  coefficient was not ( $a_3 = .24, t = .85, p = .397$ ).

The coefficients for the *Senior Management Involvement* response surface (see Figure 11) were examined. The  $a_4$  coefficient was not significant ( $a_4 = -.41, t = -1.60, p = .111$ ). The  $a_1$  coefficient was significant ( $a_1 = .74, t = 2.01, p = .046$ ), suggesting that leader effectiveness is rated more highly when the leader and culture are in agreement and perceived highly. The  $a_3$  coefficient was significant for *Senior Management Involvement* as well ( $a_3 = 1.62, t = 4.87, p < .001$ ), indicating that leader effectiveness is higher when the leader is rated more highly than the culture.

The  $a_4$  coefficient for *Executive and Senior Vice President Involvement* was significant ( $a_4 = -.56, t = -1.98, p = .049$ ). This significant negative coefficient provides evidence that effectiveness decreases as the degree of dissimilarity between the perceptions of the leader and the culture grows. The response surface model for *Executive and Senior Vice President Involvement* is shown in Figure 12. In addition, the  $a_3$  coefficient was significant ( $a_3 = 1.19, t = -2.03, p = .044$ ), though the  $a_1$  coefficient was not.

Finally, the response surface model for *Owner, President, and CEO Involvement* was examined (see Figure 13). The  $a_4$  coefficient was not significant ( $a_4 = -.20, t = -.24, p = .812$ ). No other coefficient was significant.

The results at each level of the moderator provide minimal support for Hypotheses 4a-d. First, only *Involvement* showed evidence for moderation. The results for Executives and Senior Vice-Presidents were consistent with the hypothesis, such that greater disagreement led to lower perceived leader effectiveness. The  $a_4$  coefficient was also significant for line management, though this result was not in the expected direction. In this case, greater disagreement was related to more positive leader effectiveness outcomes.

More consistent evidence was found along the non-hypothesized coefficients for *Involvement*. The  $a_1$  coefficient was significant for Line Management, Middle Management, and Senior Management, such that leaders who were in alignment with their culture and rated highly were perceived as more effective than leaders who were aligned with culture and rated poorly. Finally, a significant and positive  $a_3$  coefficient was found for Senior Management and the Executive and Senior Vice-President levels.

## CHAPTER 5 – DISCUSSION

Years of work in the leadership and organizational culture domains have consistently recognized the importance of the interplay between the two. Leaders are known to be critical players in creating and maintaining culture (Schein, 1985), while contextual factors, such as culture, can shape a leader. While there has been work done linking the two constructs (e.g., Hartnell & Walumbwa, 2010), there has not, until recently, been an integrative theoretical framework through which to view the relationship between leader and culture.

The present study was designed to extend the recent work by Burns and colleagues (Burns et al., 2013) that adopted person-environment fit as the theoretical framework through which to examine leadership and culture. That is, the present study links the leadership and organizational culture literature by examining the fit between the two and the effect of this fit on perceived leader effectiveness. The Denison leadership and culture assessments were used to investigate the effects of fit using polynomial regression and response surface methodology. In doing so, this study provides some initial empirical support for the emerging Leader-Culture Fit construct (Burns et al., 2013) that presents a novel way to view the intersection between leadership and organizational culture. It also moves beyond the previous research by examining

L-C fit across multiple organizations while also examining the moderating effect of hierarchical level.

While there is a relative lack of extant literature on LC-fit, there is considerable theory and research regarding leadership, culture, and the various types of fit encompassed by the broad conceptualization of person-environment fit. This previous literature has provided some initial direction regarding the types of question that are critical when examining the fit between the two constructs. Specifically, the leadership and culture literature suggests that a leader's fit with their culture may be beneficial and, conversely, that misfit may be detrimental. This is consistent with the work that has been done within the P-E fit domain, which has positive outcomes related to fit and negative outcomes related to misfit (e.g., Kristof-Brown et al., 2006). The extensive work done in the P-E fit literature demonstrates the sort of nuanced questions that can be further explored when examining fit. Specifically, polynomial regression and response methodology allows researchers to test questions regarding agreement, degree of dissimilarity, and direction of dissimilarity. This study tested hypotheses related to all three of these broad questions to better unpack the consequences of a leader's fit (or misfit) with the culture they reside in.

The first set of hypotheses tested whether aligned and highly rated leaders and cultures were related to more favorable perceptions of leader effectiveness. This set of hypotheses was supported for all four traits. In substantive terms, these findings support the previous literature that has found that more favorable leadership and culture ratings are related to positive organizational outcomes. These findings provide further nuance to previous findings, showing this relationship (and its opposite, that lower perceived ratings lead to more negative outcomes) holds true when the leader and the culture are aligned.

The second set of hypotheses tested whether the degree of dissimilarity was negatively related to leader effectiveness. These hypotheses were drawn primarily from the fit literature, which has consistently found that the degree of misfit, or dissimilarity, is negatively related to positive workplace outcomes or positively related to negative workplace outcomes (De Cooman et al., 2009). No evidence was found across any of the four culture traits to support these hypotheses. Thus, contrary to the literature in other fit domains, the simple degree of misfit was not related to leadership effectiveness outcomes.

The third set of hypotheses provides more nuance to the contrary findings from the second set of hypotheses. These hypotheses focused on the direction, rather than the degree, of dissimilarity. Across the traits, these hypotheses predicted that the direction of dissensus would matter, such that leader ratings that are higher than culture ratings would predict higher leader effectiveness (and, conversely, that leader ratings that are lower than culture ratings would predict lower leader effectiveness). These hypotheses were supported across all traits. In terms of L-C fit, these findings support the idea that complementary fit differentially predicts outcomes (e.g., Edwards & Cable, 2009) depending on the direction of the misfit. Further, the findings here are consistent with previous studies that have suggested that differences may be positive if the leader is seen as someone who can drive positive culture change (Trice & Beyer, 1991). The results from these hypotheses regarding the direction of the misfit do not necessarily contradict the lack of significance for the degree of misfit from hypothesis 2. Rather than emphasizing the misfit here, these results suggest that leader effectiveness is due, primarily, to the leader ratings.

The last set of hypotheses focused on testing the prediction that the hierarchical level of the leader would moderate the relationship between the degree of dissimilarity and effectiveness, such that dissimilarity between the leader and the culture would predict more negative leadership



effectiveness perceptions at higher hierarchical levels. Only the hypothesis about *Involvement* was supported. Follow-up analyses revealed differing patterns at each level. Despite the focus of the hypotheses (i.e., only on the degree of dissimilarity), the other coefficients were also calculated and interpreted to provide a more holistic picture at each hierarchical level.

Two hierarchical levels showed evidence that the degree of dissimilarity predicts leader effectiveness. Line managers showed results that were contrary to the hypotheses. Specifically, greater dissensus was significantly associated with more favorable ratings of leader effectiveness. The remaining hierarchical levels, however, had negative coefficients that were aligned with the hypotheses. Of these, only the coefficient for Executives and Vice-Presidents was significant (though they were trending toward significance for Middle and Senior Managers). Thus, there is partial support for the moderation hypothesis for *Involvement* culture. Taken as a whole, these findings very tentatively suggest that greater dissimilarity is related to less positive perceptions of leader effectiveness when the leaders are in middle management or above. The lack of power at the higher levels contributes to the tentative nature of these findings. That is, it is possible that the non-significant effects at higher levels here were due to a low sample size at the CEO and president level. If this were the case, it would suggest that, in general, a greater degree of dissimilarity from the culture is detrimental to the perceived effectiveness of the leader. The exception is the line managers, whose results were contrary to what was hypothesized. The significance and opposite direction of the sign may be due to the fact that a large number of line managers came from one company, thereby biasing this particular finding.

The slope along the line of agreement was not hypothesized about directly, though it was examined. Statistically significant results for line, middle, and senior managers showed that aligned and high leader and culture ratings predicted higher leader effectiveness in involvement,

providing support for the joint importance of leader and culture. The lack of significance at higher levels may again be due to low statistical power.

Finally, the slope along the line of incongruence was found to have implications at the senior management and executive and vice-president levels. Consistent with the omnibus results along each trait, senior managers and executive's were rated more highly when they were dissimilar and rated more highly than the culture. For *Involvement* culture, these findings further specify that the direction of dissensus is most critical for leaders who are higher in the hierarchy (though the results for the highest level leaders were non-significant). Practically, this finding suggests that higher-level leaders are viewed more favorably when they are perceived as potentially being able to drive culture change due to both their hierarchical level and the favorable perceptions of their leadership behaviors. The lack of support for this finding at lower hierarchical levels provides additional support for this assertion.

Overall, the conclusions that can be drawn from the overall set of findings at each hierarchical level must be tentative due to the lack of power at the higher levels. The general pattern of the results does suggest several trends though. First, the degree of dissimilarity matters for upper level leaders. Not fitting with the culture leads to negative perceptions of one's effectiveness. Second, being in alignment with the culture is beneficial for perceptions of one's effectiveness, particularly as both the culture and the leader are viewed more favorably. Finally, the direction of the dissensus is important, particularly for higher level leaders. That is, leaders who are perceived more favorably than their culture are also viewed as being highly effective. As with the third hypothesis though, this importance serves to highlight the criticality of the perceptions of the leader in relationship to leader effectiveness.

## Limitations and Future Directions

There are several factors that both limit this study and provide avenues for future research. The first limitation is that there is non-independence within the data that is not accounted for. Specifically, there were numerous leaders nested within individual organizations (and thus within individual organizational cultures). While this violates the assumptions inherent to the regression framework (Cohen, Cohen, West, & Aiken, 2003), there is, at present, no well-established way of handling the non-independence of data within a response surface modeling framework. Caution in interpreting the results presented here is recommended due to this limitation, as it is possible that the results are biased due to non-independence. Future research should attempt to replicate this study while accounting for leaders nested within organizations. Alternatively, future research could utilize a sample of many organizations while sampling only the top level leader, though this would preclude tests of moderation along hierarchical lines.

A second limitation to the study is the lack of sample size at higher hierarchical levels. While the sample size was sufficient to detect and interpret moderation meaningfully at lower levels, the lack of sample size at the highest levels (i.e., 46 owners, CEO's, or presidents) resulted in some of the moderation analyses being underpowered. Future research would benefit from a sample that contains a greater number of leaders at all hierarchical levels in order to properly test some of the broader trends and assertions discussed above.

The use of a single outcome measure limits the generalizability of the findings here. That is, the present study provides evidence that L-C fit is a meaningful construct when one is concerned with perceived leader effectiveness. That is, the use of the leader effectiveness outcome variable may be, in part, responsible for some of the specific findings here. While the purpose of polynomial regression and response surface methodology is to move beyond

regression to examine complex surfaces, the coefficients in the quadratic regression models here do suggest that leader ratings are the primary drivers of perceived leader effectiveness. A visual examination of the response surface models further supports this notion. Thus, future research into this construct should examine a variety of other individual or organizational level outcomes, such as employee satisfaction or organizational financial performance.

Related to this, future research should consider using other measures of leadership and culture, particularly one's that do not have a mono-method bias. The Denison models have been well-validated, but they were designed to be prescriptive (and thus inherently linked to effectiveness). Additionally, the DLDS and DGLES were rated by the same raters at the same time, potentially resulting in an undetected mono-method bias. Future research could consider utilizing descriptive measures or other dimensional measures (e.g., GLOBE's dimensions) as alternative ways of examining the fit between a leader and their culture. Existing descriptive measures could be adapted to meet the methodological requirements for polynomial regression in order to provide further evidence for leader-culture fit. For example, value measures between an individual leader and the aggregated organization's values or leader-member exchange conceptualizations could be utilized in this fashion to extend the leader-culture fit literature into other established domains. The use of other measures of leadership and culture would both provide additional evidence for L-C fit while also potentially identifying boundary conditions for this construct. Finally, caution should be taken in interpreting the graphs beyond the data points on the floor. That is, the surface can only be interpreted in terms of the coefficients presented and the surface above the data points presented.

## Conclusions

There are several broad conclusions that can be drawn from the present study. First, alignment, or fit, matters, as evidenced by the results along slope of the line of agreement, as does the direction of misfit, as evidenced by the results along the slope of the line of incongruence. The misfit results suggest that the simple degree of misfit between a leader and the culture is not important for leader effectiveness. Rather, the perceptions of the leader lead to a significant curvature along the line of incongruence, empirically suggesting the direction of dissimilarity matters. This is not to say that misfit is significant. Instead, the results found here suggest that the leader is the primary driver of leader effectiveness, such that the most positive results are seen when a leader is rated more highly. In practical terms, this suggests that high capability leaders are seen as highly effective, particularly when their capabilities are made salient by a less capable culture. At the same time, lower capability leaders are seen as ineffective regardless of whether the culture is highly capable or not.

There are several implications that emerge from examining fit across all hierarchical levels. The first is that companies should look to hire high quality leaders at every level, regardless of how the culture is doing. If the culture is strong it is beneficial to hire leaders with similar strengths who fit the culture. If the culture is lacking in some way fit is less important than being perceived well as a leader, at least as it relates to one's perceived effectiveness. The additional layer of nuance is that high quality leaders are particularly important when the culture is lacking in some way. The contrast between a poor culture and a good leader bodes well for a leader being perceived as effective, despite the misfit between the two. Thus, the practical implication can be summarized by saying that it is good practice to hire high quality leaders, particularly when the culture of the organization needs some development.

While the broad set of results suggested that the overall degree of dissimilarity matters less across traits, there is evidence that the overall degree of dissimilarity is important to consider at certain hierarchical leadership levels (for the trait of *Involvement*). The preliminary evidence demonstrates that fit is indeed important, particularly at higher hierarchical levels. This is consistent with the extant literature, which focuses on the importance of founders or other high level leaders in the creation and maintenance of organizational culture (e.g., Schein 2010).

Thus, there are several practical implications that relate to hierarchical level. When the culture is strong, human resources practitioners, consultants, and coaches should thus look to hire or develop leaders who are perceived favorably and who are aligned with the culture. When the culture is lacking leaders who have a strength in that area should be hired. Alternatively, these areas should be the focus of continued development for existing leaders. Finally, our evidence suggests that L-C fit is important for lower level management as well. These findings, as a whole, imply that leaders at all levels should be selected, in part, based on their fit. The tentative implication is that fit is not always the most important factor. Instead, a certain degree of misfit, particularly at higher levels, may be beneficial if the leader possesses competencies that the culture does not.

In summary, the present study provides some empirical support to the L-C fit construct that was recently put forth. In doing so, it also provides an important linkage between the leader and culture literature while adding to the existing literature around P-E fit. Specifically, the present study emphasizes the importance of leader ratings in regard to leader effectiveness. Further research must be conducted to address the limitations in this study in order to further examine the importance of fit in the leader and culture domain.

Table 1: Parallel Attributes of the Denison Leadership Development Survey (DLDS) and the Denison Organizational Culture Survey (DOCS)

Index from the DLDS Leader behaviors/skills focused on...	Index from the DOCS Cultural values and behavioral norms regarding...
<b>Involvement:</b> empowerment and development of people and teams	
Empowers People ... facilitating employee participation and ownership.	Empowerment ... employee involvement in work and decision-making.
Builds Team Orientation ... developing and leveraging effective teamwork in the organization.	Team Orientation ... independence versus cooperation and mutual accountability.
Develops Organizational Capability ... building employee capabilities for future challenges and using the diversity of the workforce.	Capability Development ... the development of human resources as a source of competitive advantage.
<b>Consistency:</b> coordinated actions and value-consistent behaviors	
Defines Core Values ... helping to define and exemplify a set of non-negotiable core values.	Core Values ... the existence of shared principles and an ethical code that guides behavior.
Works to Reach Agreement ... promoting constructive discussion and reconciliation of conflicting views.	Agreement ... the importance of reaching consensus on key issues and the difficulty of doing so.
Manages Coordination and Integration ... improving access to resources and cross-functionality within the organization.	Coordination and Integration ... alignment and coordination across different parts of the organization.
<b>Adaptability:</b> external orientation and responsiveness	
Creates Change ... challenging unproductive work practices and implementing continuous improvement processes.	Creating Change ... flexibility and willingness to change existing work practices.
Emphasizes Customer Focus ... improving the organization's responsiveness to customer needs and wants.	Customer Focus ... listening and adapting to changes in the marketplace.
Promotes Organizational Learning ... dealing constructively with failures and rewarding innovation and creativity.	Organizational Learning ... the centrality of risk-taking and learning as organizational objectives.
<b>Mission:</b> clarity of purpose and direction	
Defines Strategic Direction and Intent ... communicating, clarifying, and implementing the organization's strategy.	Strategic Direction and Intent ... the visibility of the organization's mission and strategy and connection to daily activities.

**Defines Goals and Objectives**

... setting clear and ambitious goals and holding others accountable in the goal-setting process.

**Creates a Shared Vision**

... articulating a vision and inspiring energy and commitment to its achievement.

**Goals and Objectives**

... the use of goals to drive achievement.

**Vision**

... the long-term outlook on the organization's desired future state.

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Table 2: Descriptive and Agreement Statistics

	Mean	SD	Mean $r_{wg(j)}$	Median $r_{wg(j)}$	ICC(1)	ICC(2)
<b>Leader</b>						
Involvement	5.67	.49	.75	.95	.19	.56
Consistency	5.76	.45	.81	.96	.18	.56
Adaptability	5.70	.45	.81	.96	.17	.54
Mission	5.62	.51	.78	.96	.19	.57
<b>Culture</b>						
Involvement	3.49	.21	.94	.94	.13	.99
Consistency	3.37	.21	.94	.95	.14	.99
Adaptability	6.32	1.79	.95	.95	.14	.99
Mission	3.47	.26	.95	.95	.14	.99
<b>Effectiveness Ratings</b>	5.67	.68				

Table 3: Correlations Between Constructs

	Leader Involvement	Leader Consistency	Leader Adaptability	Leader Mission	Culture Involvement	Culture Consistency	Culture Adaptability	Culture Mission	Combined Others Effectiveness Rating
Leader Involvement	1	.86**	.84**	.87**	.21**	.21**	.04*	.23**	.83**
Leader Consistency		1	.84**	.82**	.21**	.23**	.03	.24**	.85**
Leader Adaptability			1	.87**	.23**	.23**	.05*	.24**	.79**
Leader Mission				1	.25**	.24**	.05*	.31**	.80**
Culture Involvement					1	.91**	.04*	.82**	.12**
Culture Consistency						1	-.01	.79**	.13**
Culture Adaptability							1	-.05*	.01
Culture Mission								1	.13**
Combined Others Effectiveness Rating									1

\*  $p < .05$ , \*\*  $p < .001$

Table 4: Percentages of Underestimation, Agreement, and Overestimation

	Percentage
Involvement	
OCS > LDS	32.10%
Equal	33.30%
OCS < LDS	34.60%
Consist	
OCS > LDS	30.20%
Equal	33.40%
OCS < LDS	36.40%
Adaptability	
OCS > LDS	31.60%
Equal	35.40%
OCS < LDS	33.0%
Mission	
OCS > LDS	32.10%
Equal	33.90%
OCS < LDS	34.00%

Table 5: Polynomial Regression Results

	<i>F</i>	<i>R</i> <sup>2</sup>	<i>B</i>	<i>SE</i>
Involvement	<i>F</i> (5,1001) = 375.38	.65**		
Constant			3.82**	.14
Leader			1.16**	.13
Culture			0.03	.20
Leader x Leader			-0.02	.04
Leader x Culture			-0.01	.09
Culture x Culture			-0.03	.09
Consistency	<i>F</i> (5,1002) = 423.10	.680**		
Constant			3.46**	.13
Leader			1.35**	.15
Culture			0.07	.18
Leader x Leader			-0.04	.05
Leader x Culture			-0.01	.09
Culture x Culture			-0.09	.09
Adaptability	<i>F</i> (5,1001) = 300.74	.60**		
Constant			3.45**	.18
Leader			1.52**	.19
Culture			-0.16	.28
Leader x Leader			-0.10	.06
Leader x Culture			-0.06	.13
Culture x Culture			0.18	.16
Mission	<i>F</i> (5,1000) = 277.09	.58**		
Constant			4.16**	.11
Leader			0.94**	.13
Culture			-0.06	.18
Leader x Leader			-0.01	.04
Leader x Culture			0.05	.08
Culture x Culture			-0.12	.10

\*  $p < .05$ , \*\*  $p < .001$

Table 6: Testing Squared Difference Model Against Algebraic and Cubic Models

Trait	Squared Difference Model		Constrained Squared Difference Compared to Unconstrained		Cubic Comparison to Squared Difference	
	<i>F</i>	<i>R</i> <sup>2</sup>	<i>F</i>	$\Delta R^2$	<i>F</i>	$\Delta R^2$
Involvement	<i>F</i> (5,1001) = 375.38	.65**	<i>F</i> (1001,1005) = 190.39	.26**	<i>F</i> (999,1001) = 0	0
Consistency	<i>F</i> (5,1002) = 423.10	.68**	<i>F</i> (1002,1006) = 213.04	.27**	<i>F</i> (1000,1002) = 0	0
Adaptability	<i>F</i> (5,1001) = 300.74	.60**	<i>F</i> (1001,1005) = 110.11	.18**	<i>F</i> (1000,1001) = 0	0
Mission	<i>F</i> (5,1000) = 277.09	.58**	<i>F</i> (1000,1004) = 174.82	.29**	<i>F</i> (998,1000) = 2.39	0

Note: The squared difference model presents the initial model and  $R^2$  for the quadratic equation. A significant  $R^2$  supports the first condition. The constrained squared difference model to the unconstrained difference model comparison presents the *F*-test and  $\Delta R^2$  between the constrained and unconstrained squared difference model. A non-significant  $\Delta R^2$  supports the third condition. The cubic comparison presents the *F*-test and  $\Delta R^2$  between the cubic model and the squared difference model. A non-significant  $\Delta R^2$  supports the fourth condition.

\*  $p < .05$ , \*\*  $p < .001$

Table 7: Hypothesis Testing Along Slopes of Interest

Trait	Y=X		Y=-X	
	$a_1$	$a_2$	$a_3$	$a_4$
Involvement	1.19**	-.06	1.13**	-.04
Consistency	1.42**	-.14*	1.28**	-.12
Adaptability	1.36**	.02	1.68**	.14
Mission	.92**	-.06**	.95**	.14
Moderation (by level)				
Line Management	2.02**	-.46**	.01	.82**
Middle Management	1.53**	-.40*	.24	-.22
Senior Management	.74**	.08	1.62**	-.41
Executives/Senior VP	1.14	-.07	1.19*	-.56*
Owners, Presidents, CEOs	.65	.07	1.87	-.20

\*  $p < .05$ , \*\*  $p < .001$

Table 8: Testing  $\Delta R^2$  for Moderation

Trait	Squared Difference Model		Moderation Comparison to Squared Difference	
	$F$	$R^2$	$F$	$\Delta R^2$
Involvement	$F(5,1001) = 375.38$	.65**	$F(995,1001) = 6.45$	.02*
Consistency	$F(5,1002) = 423.10$	.68**	$F(996,1002) = 3.16$	.01
Adaptability	$F(5,1001) = 300.74$	.60**	$F(995,1001) = .83$	0
Mission	$F(5,1000) = 277.09$	.58**	$F(994,1000) = 0$	0

Note: The squared difference model presents the initial model and  $R^2$  for the quadratic equation. The moderation comparison presents the  $F$ -test and  $\Delta R^2$  between the moderation model and the squared difference model. A significant  $\Delta R^2$  supports moderation.

\* $p < .05$ , \*\* $p < .001$

Table 9: Polynomial Regressions for Involvement by Level

	<i>F</i>	<i>R</i> <sup>2</sup>	<i>B</i>	<i>SE</i>
Line Management	<i>F</i> (5,270) = 132.83	.71**		
Constant			3.47**	.16
Leader			1.01**	.17
Culture			1.005**	.23
Leader x Leader			.176*	.07
Leader x Culture			-0.64	.18
Culture x Culture			0.00	.15
Middle Management	<i>F</i> (5,306) = 150.68	.71**		
Constant			3.81**	.18
Leader			0.89**	.16
Culture			.65*	.28
Leader x Leader			0.08	.05
Leader x Culture			-0.09	.15
Culture x Culture			-0.39	.16
Senior Management	<i>F</i> (5,288) = 114.28	.67**		
Constant			4.05**	.17
Leader			1.18**	.19
Culture			-0.44	.30
Leader x Leader			-0.08	.07
Leader x Culture			0.25	.16
Culture x Culture			-0.08	.17
Executive/Senior VP	<i>F</i> (5,183) = 64.90	.70**		
Constant			3.88**	.37
Leader			1.17**	.26
Culture			-0.03	.53
Leader x Leader			-0.07	.06
Leader x Culture			0.25	.22
Culture x Culture			-0.24	.22
Owner, President, CEO	<i>F</i> (5,25) = 9.91	.67**		
Constant			4.50**	.74
Leader			1.26**	.56
Culture			-0.61	1.07
Leader x Leader			-0.15	.20
Leader x Culture			0.14	.57
Culture x Culture			0.09	.22

\*  $p < .05$ , \*\*  $p < .001$



Figure 1: Denison Organizational Culture Model

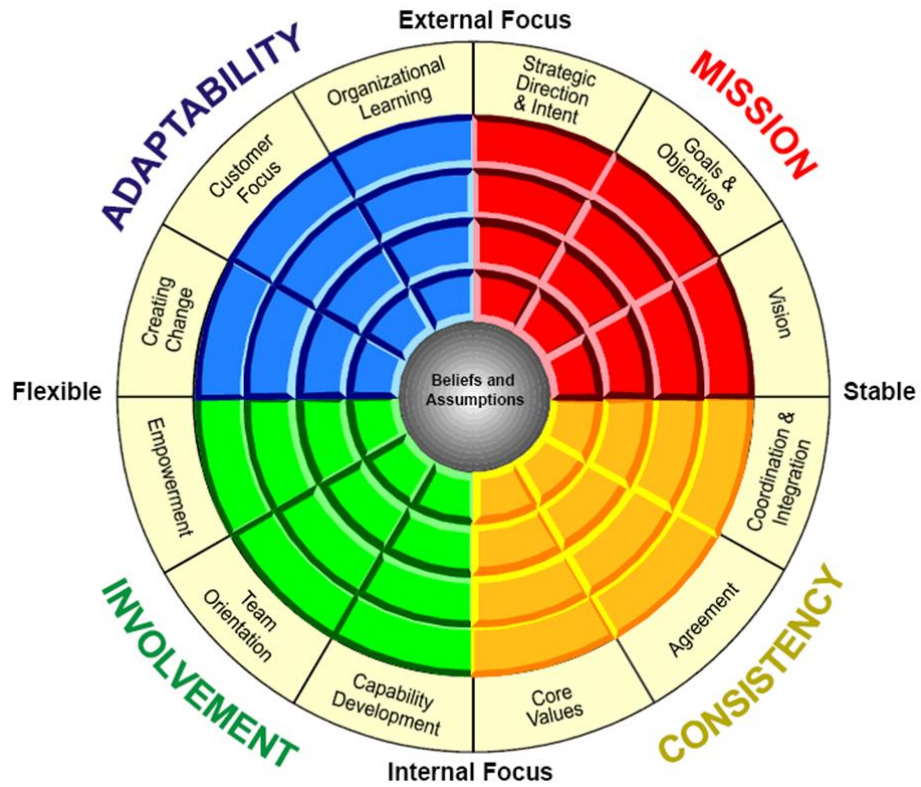


Figure 2: Example surface where the degree of agreement between X and Y is significantly related to Z, such that Z increases as the joint agreement of X and Y increase

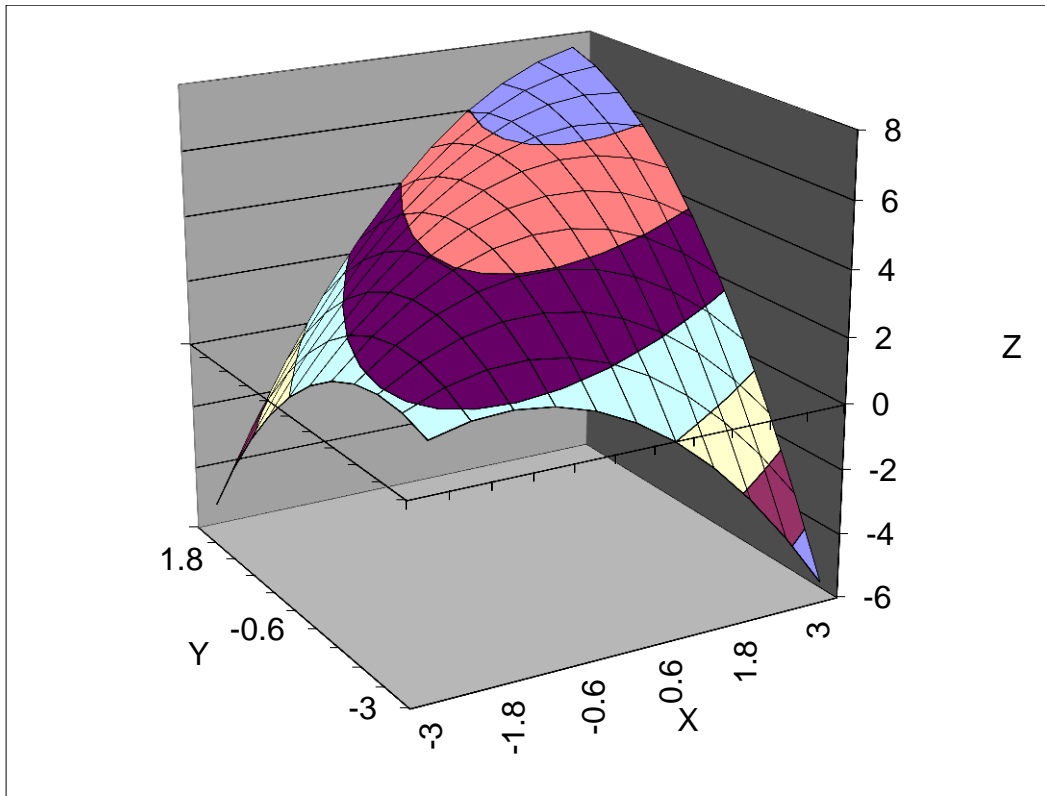


Figure 3: Example surface where the degree of discrepancy (curvature along  $Y = -X$ ) is significantly related to  $Z$

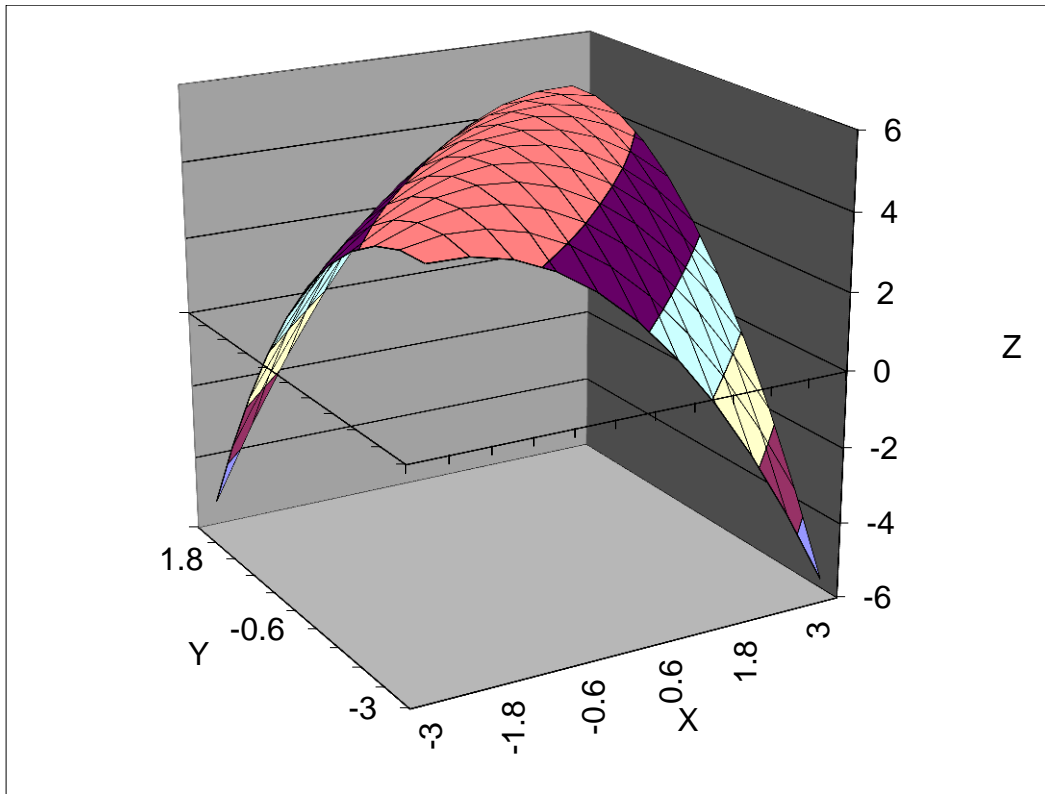


Figure 4: Example surface when the direction of discrepancy is significantly related to Z, such that Z is highest when  $X > Y$  (slope along the  $Y = -X$  line)

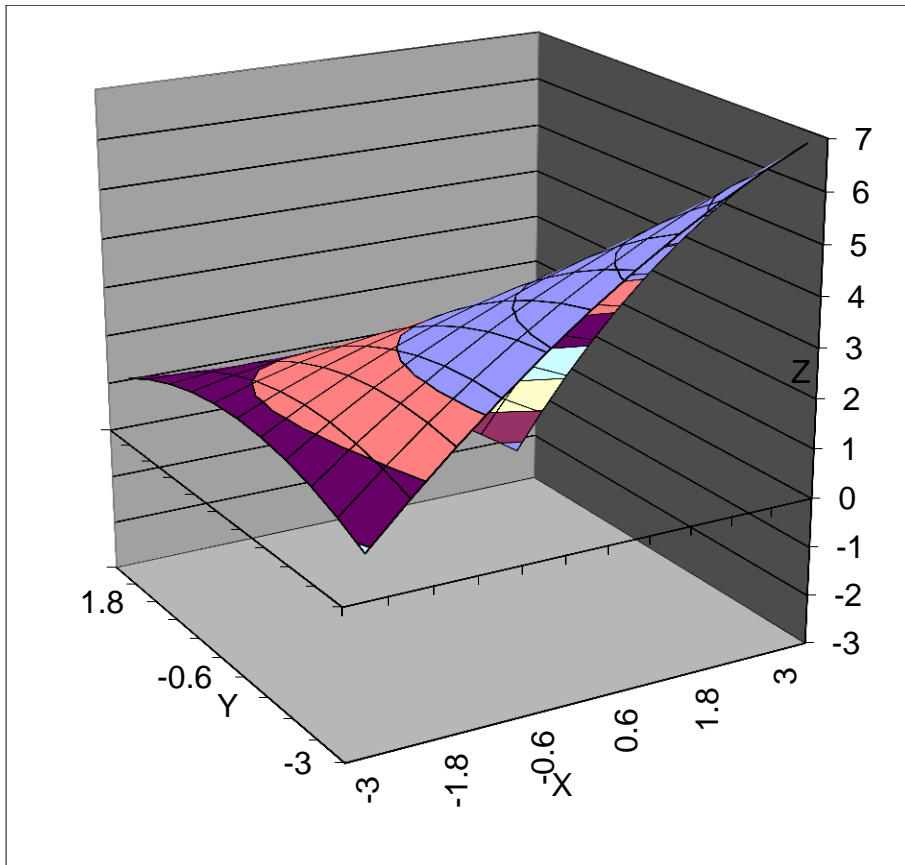


Figure 5: Response Surface for Involvement

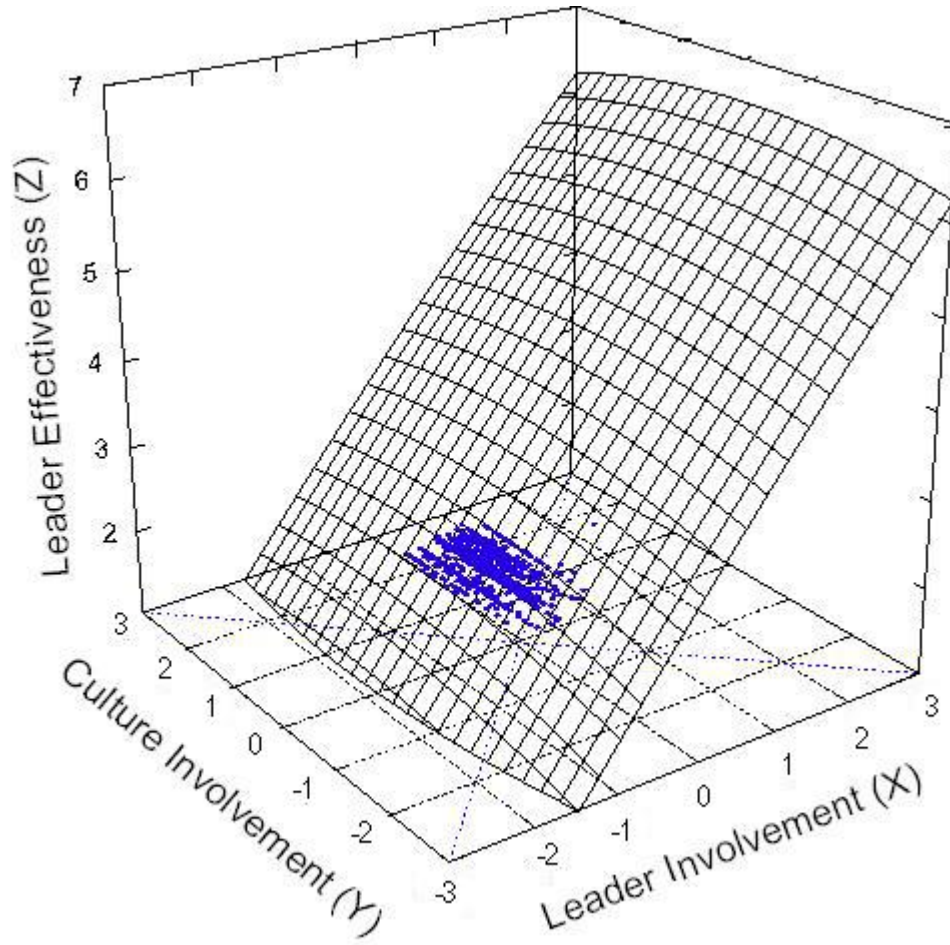


Figure 6: Response Surface for Consistency

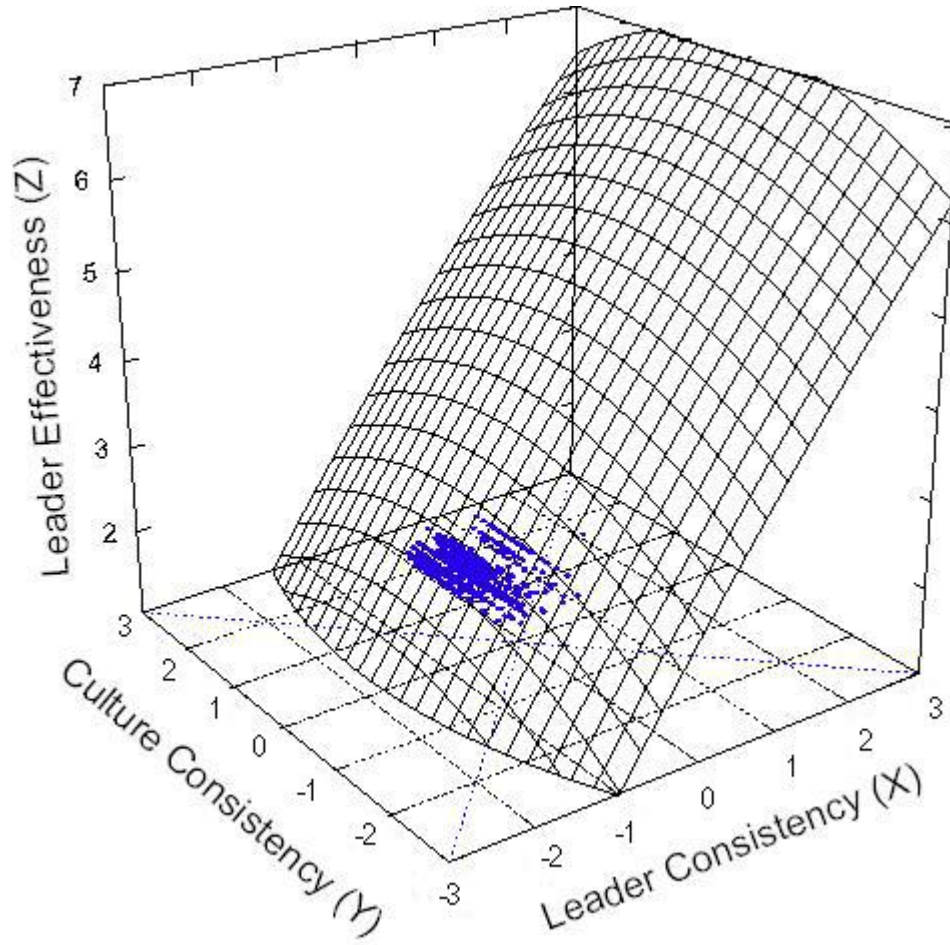


Figure 7: Response Surface for Adaptability

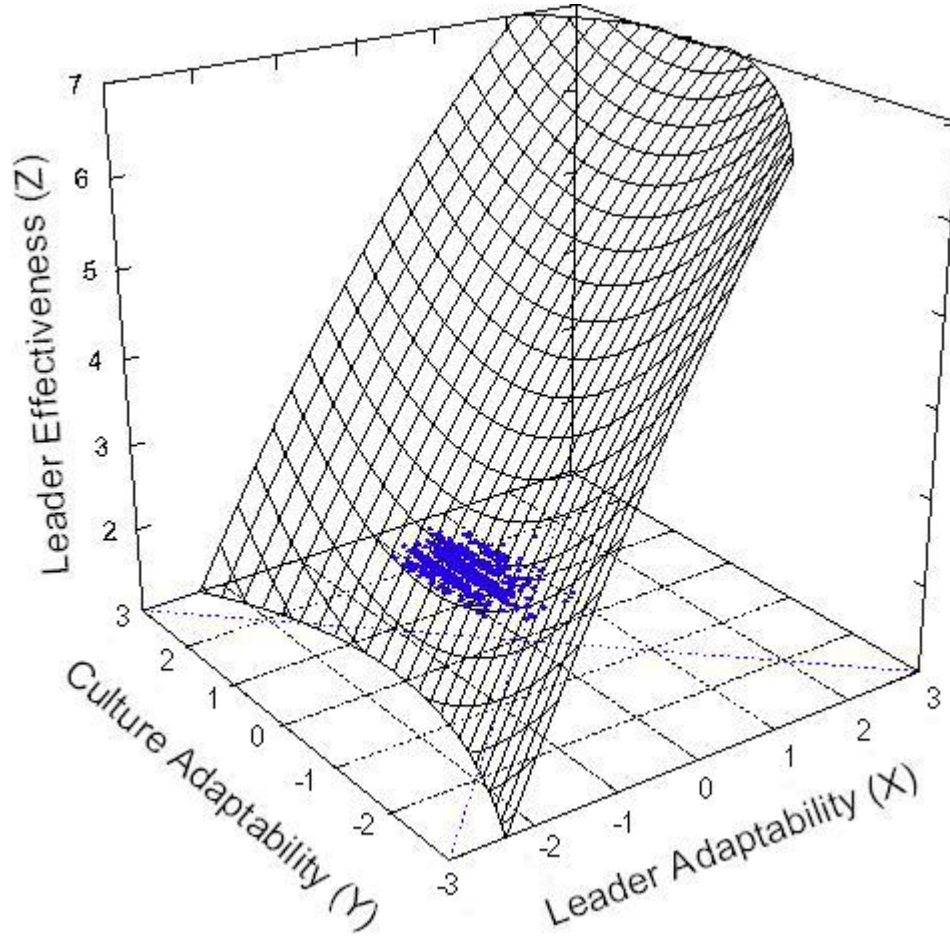


Figure 8: Response Surface for Mission

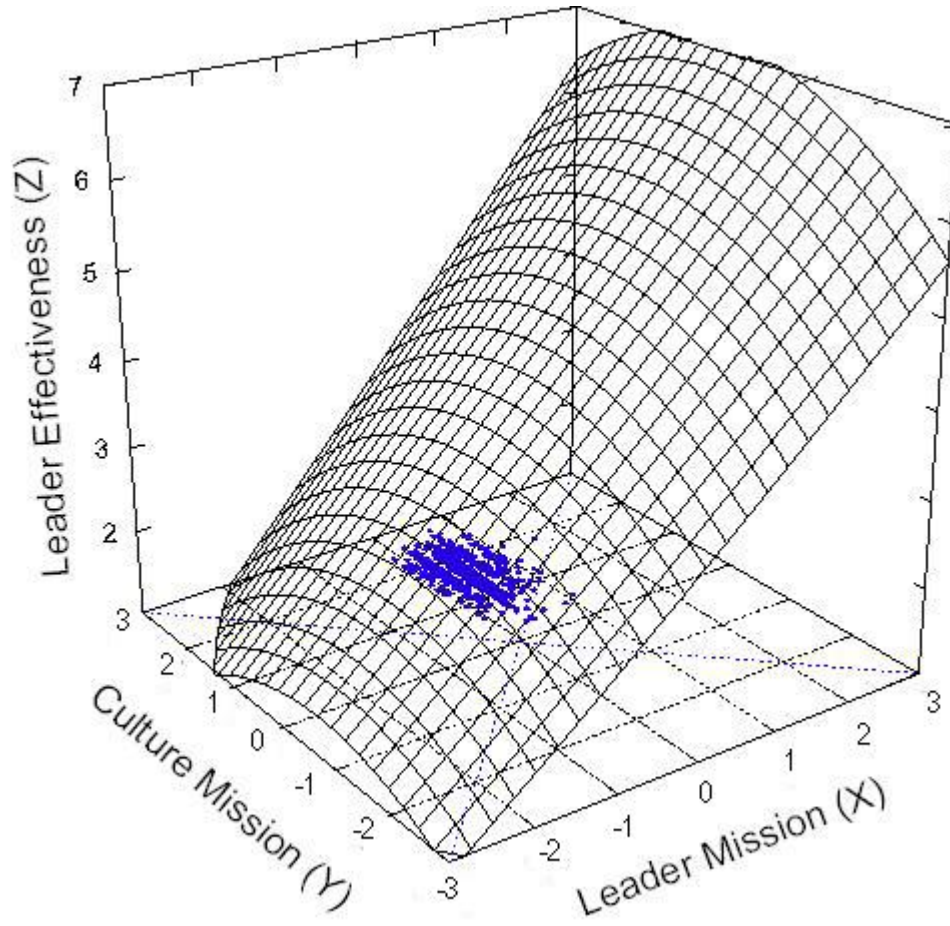




Figure 9: Response Surface for Line Manager Involvement

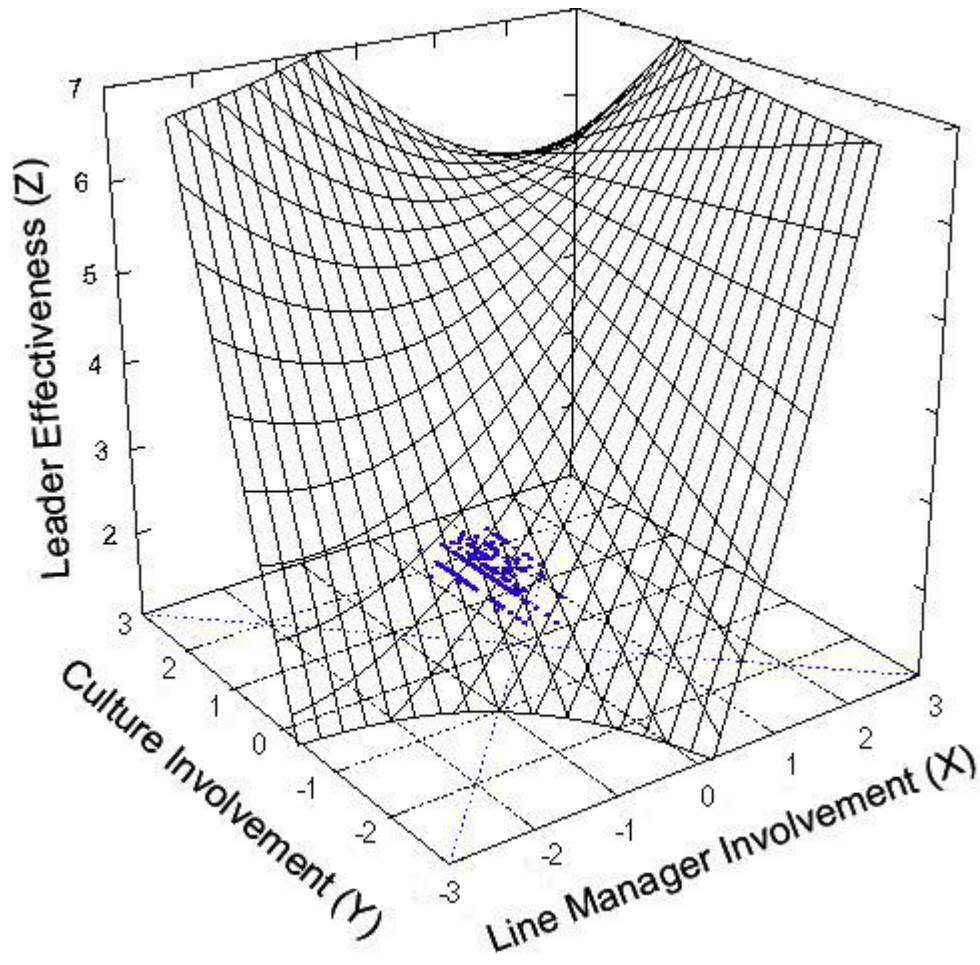


Figure 10: Response Surface for Middle-Manager Involvement

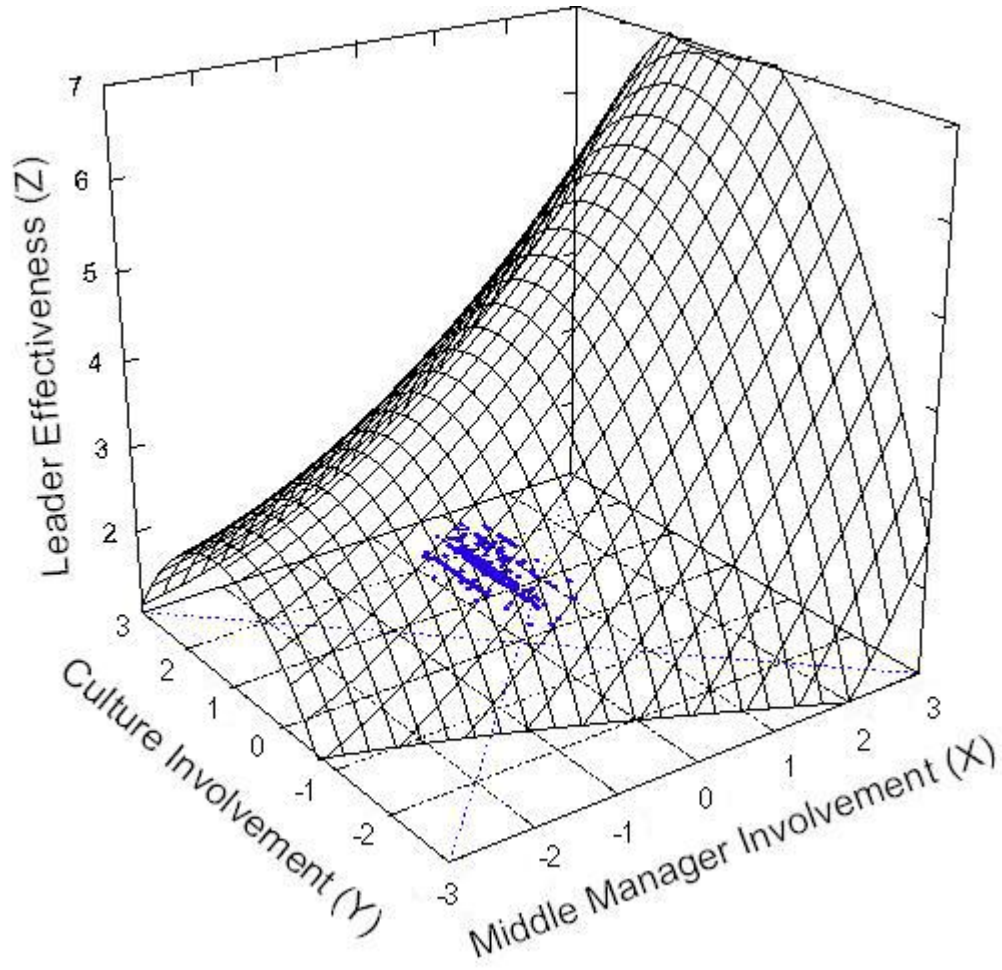


Figure 11: Response Surface for Senior Management

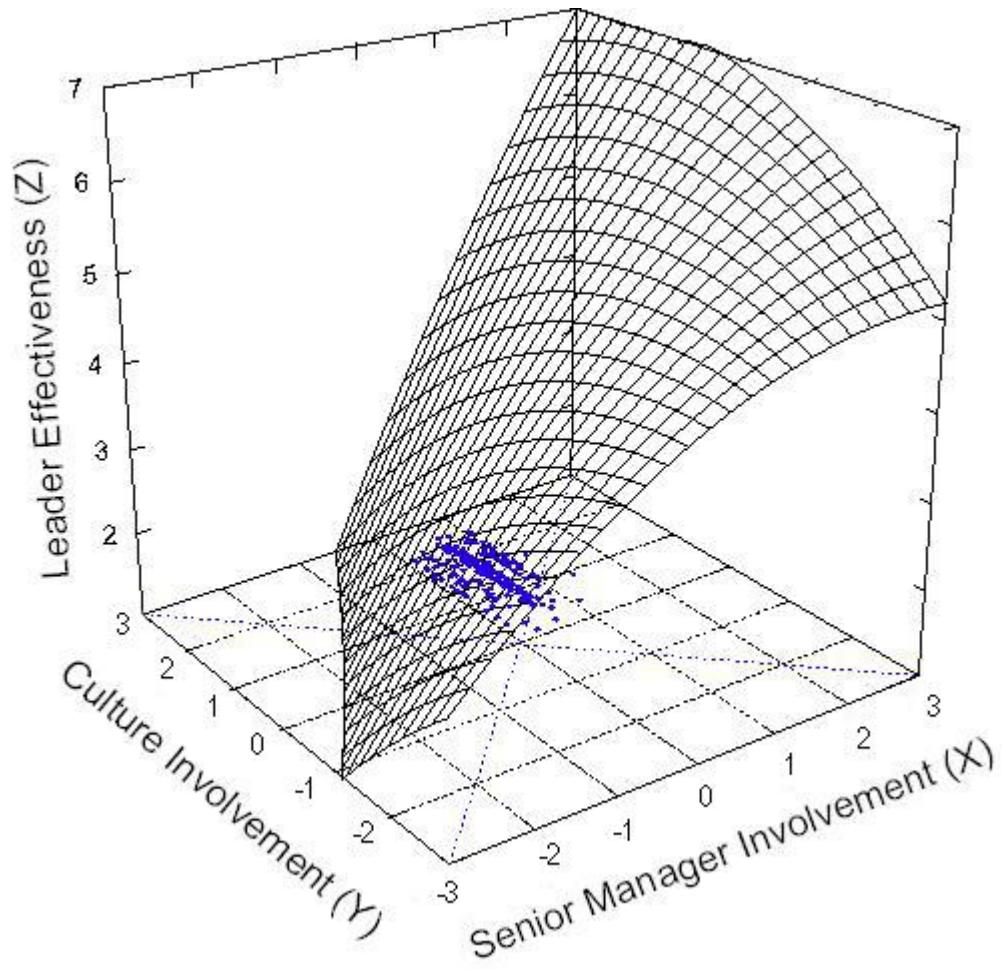


Figure 12: Response Surface for Senior Executives and VPs

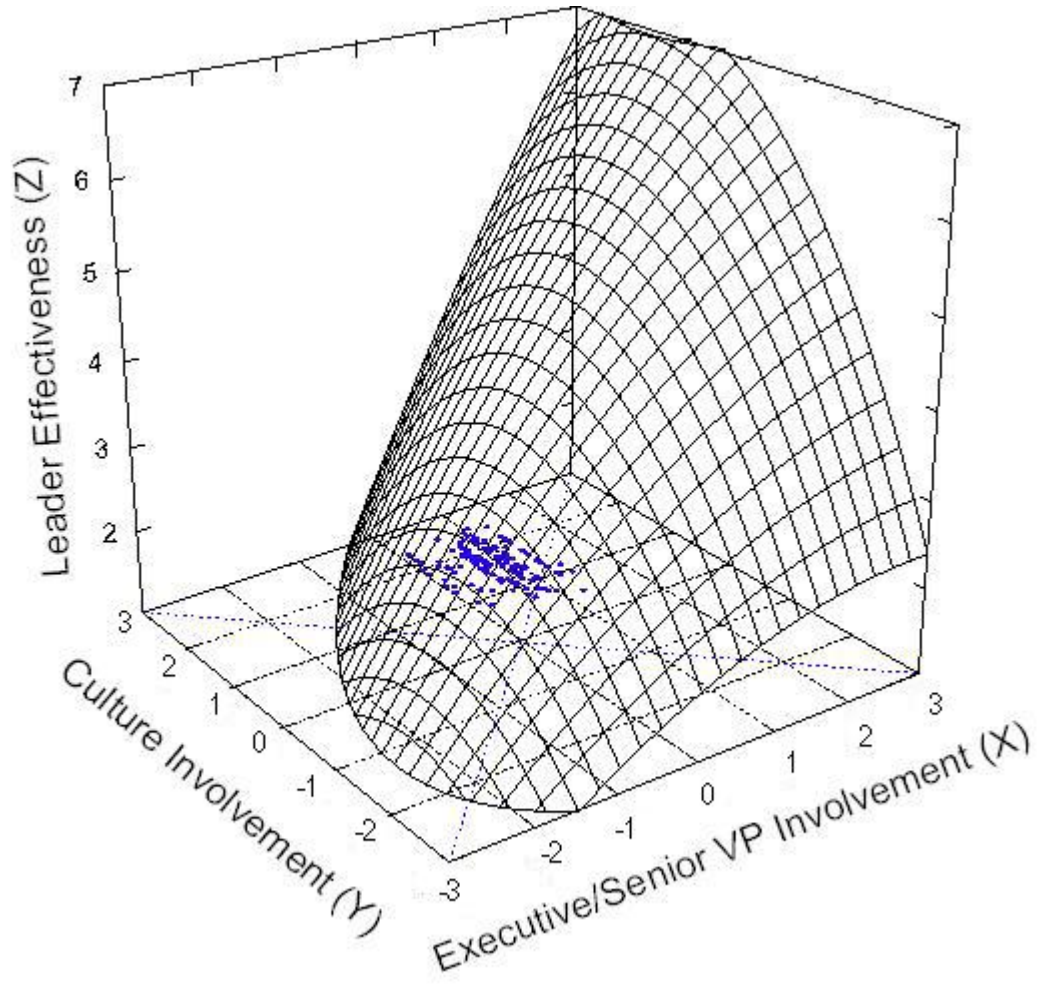
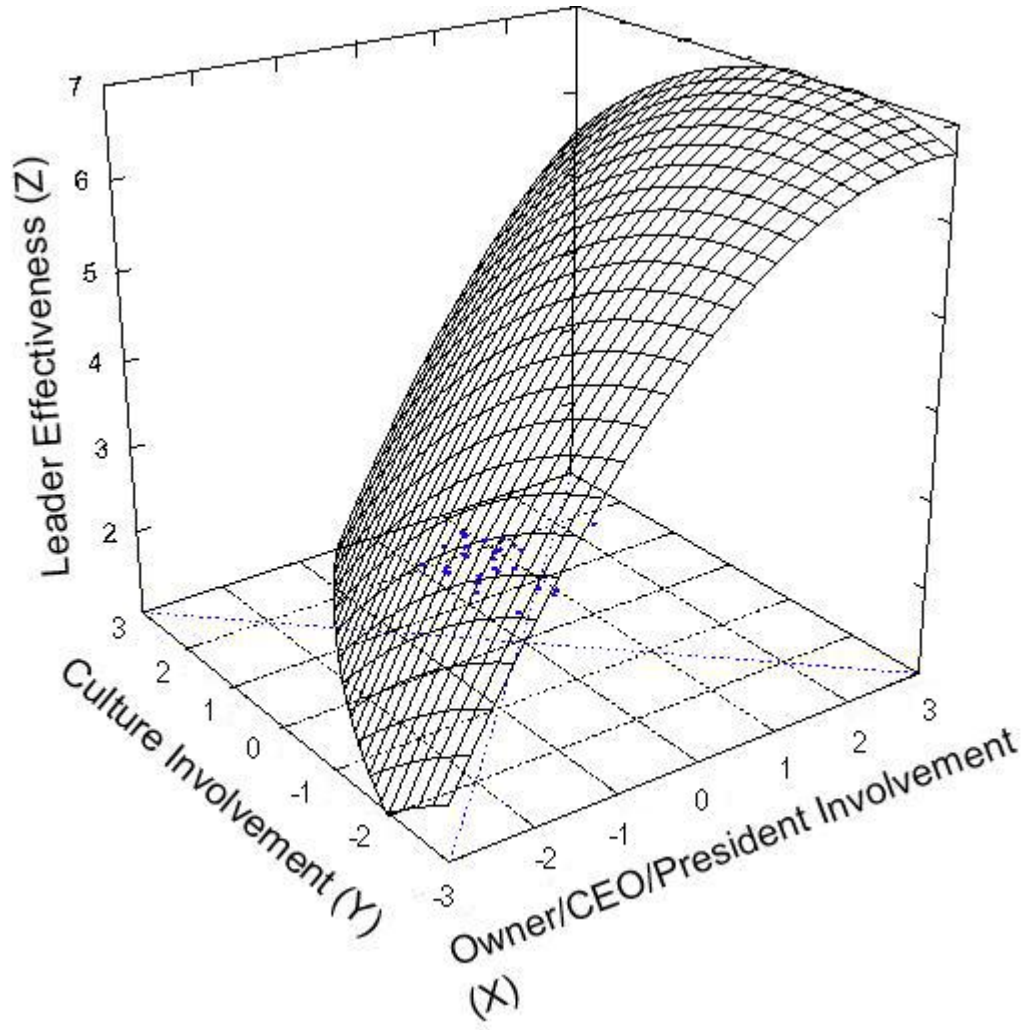


Figure 13: Response Surface for Owners, Presidents, and CEOs



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**ABSTRACT****DO THE LEADERS FIT THE PLACE? EXAMINING LEADER-CULTURE FIT AND ITS IMPLICATIONS FOR LEADER EFFECTIVENESS**

by

**BENJAMIN BIERMEIER-HANSON****August 2014****Advisor:** Marcus W. Dickson, Ph.D.**Major:** Psychology (Industrial-Organizational)**Degree:** Doctor of Philosophy

The present study focused on a relatively new concept, Leader-Culture Fit (L-C Fit), to help bridge the empirical gap that exists between the literatures on leadership and organizational culture. L-C Fit, a subtype of Person-Environment fit, was examined here by testing the complex relationships between perceptions of leaders, perceptions of their cultures, and how the fit between the two relates to leader effectiveness. The present study found that fit (and misfit) between a leader and their culture for perceived leader effectiveness. Specifically, fit is beneficial for perceived leader effectiveness when the leader and the culture are in alignment and are rated highly. Misfit is most beneficial when the leader is perceived to be more capable than the culture they reside in. Further, the hierarchical level of the leader was found to moderate this relationship for one of the traits examined. Implications for the literature around L-C fit and for practitioners are discussed.

## **AUTOBIOGRAPHICAL STATEMENT**

Benjamin Biermeier-Hanson received his B.A. in Psychology from the University of Minnesota – Twin Cities, and his M.A. in psychology from Wayne State University. Ben’s primary research interests focus around leadership, organizational culture, and the intersection of the two. His most recent interests focus on leader-culture fit, as well as the leader-culture-performance linkage. Ben has also worked for Denison Consulting in Ann Arbor, MI, and as a statistical consultant for various organizations.