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**A TEST OF THE LEADERSHIP-CULTURE-
PERFORMANCE MODEL WITHIN A LARGE,
DUTCH FINANCIAL ORGANIZATION**

By Celeste P.M. Wilderom and Peter T. van den Berg

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**A TEST OF THE LEADERSHIP-CULTURE-PERFORMANCE MODEL
WITHIN A LARGE, DUTCH FINANCIAL ORGANIZATION**

ABSTRACT

This study examines the notion that leadership style (L) and organizational culture (C) are significantly associated with organizational performance (P). Despite many such claims in the literature, very few empirical studies have focused on the LCP model. Representative survey data from the personnel of 58 branches of a large Dutch bank were corrected for common method variance, and reliable, objective performance data of these bank branches were made available. The hypothesized LCP model was tested with LISREL. The results show that a balanced transformational leadership style is significantly related to both organizational culture (gap) and objective performance. Moreover, the relationship between culture and objective performance appears to be suppressed by leadership and perceived performance. The findings suggest that, instead of striving for a sense of strong culture, organizational culture gap reduction pays off better for most firms in the long run.

A TEST OF THE LEADERSHIP-CULTURE-PERFORMANCE MODEL WITHIN A LARGE, DUTCH FINANCIAL ORGANIZATION

A practically relevant question in our field that receives relatively little research attention is: How do leadership and organizational culture jointly relate to organizational performance? These three constructs have rarely been explored simultaneously. This is not due to a lack of relevance of each of the constructs but rather to a scarcity of researchers who operate across the various subdisciplines of Organization Studies within one research project. Leadership research in the context of organizations is usually carried out by organization psychologists or by those working in the area of Organizational Behavior (e.g., Bass, 1990). Organizational culture is a construct typically studied by organization sociologists or by scholars who are specialized in Organization Theory (e.g., Trice & Beyer, 1993). The financial-performance variable is currently used most by those interested in Organization and Strategy issues (Shenav, Shrum, & Alon, 1994; Glunk & Wilderom, 1998). Focusing on organizational Leadership, Culture, and Performance (LCP) in one empirical project seems like connecting three islands with one bridge. Despite the many claims of interdisciplinarity, very few organization studies have been published with such a distinctively interdisciplinary flavor (Knights & Willmott, 1997), if a study on the Organizational Leadership-Culture-Performance model could be called interdisciplinary at all, since it truly comes within the scope of Organization Studies.

This paper starts with a summary of the organizational literature that focuses on the LCP model under discussion:

Leadership ----> Culture ----> Performance

First, we will review representative literature concerning each link and present an overview of current thinking on the two independent variables of the model, as well as a more abstract theoretical approach to the LCP model. Subsequently, we will formulate our specific hypotheses, followed by the Method, Results, and Discussion sections.

One of the earliest pieces of academic writing in which all three constructs are mentioned is Schein's often cited book from 1985. In its preface, he states: 'I hope to demonstrate that...culture can aid or hinder organizational effectiveness, and that leadership is the fundamental process by which organizational cultures are formed and changed.' It is noteworthy that the rest of the book does not contain the words 'effectiveness' or 'performance.' Much popular management literature also claims that culture and the promulgation of culture by leadership account for the success of firms (see, e.g., Deal & Kennedy, 1982). In stark contrast to the LCP claims, we know of only one empirical study to date that has tested the LCP model. Published in 1992, this study investi-

gates a sample of 50 Dutch franchised food retailing organizations. Koene, Pennings, and Schreuder (1992: 219) reported 'significant relationships between leadership, organizational culture, and organizational outcome variables.' Their results show that some, but not all, measures of leadership correlate with aspects of what is called organizational culture and firm performance. An examination of Koene's study leads to the question of whether the evidence for LCP would be more convincing if more reliable and valid measures of leadership and culture were employed (see also Koene, 1996). We hope our study will contribute to this discussion.

Culture-Performance

Of the two links in the LCP model, the connection between organizational culture and performance has so far received the most scholarly attention. In 1984, Denison (1984: 6) commented that there is 'little solid evidence about the impact of an organization's culture on performance.' His paper was the first in what can retrospectively be seen as a cluster of nine empirical studies on the significant link between organizational culture and firm performance (see Table 1). Only nomothetic studies that explicitly use the variables of organizational culture and effectiveness/performance are included in this table.

Insert Table 1 about here

Table 1 shows little variety in terms of sampling. Eight of the nine studies used US-based firms. Hence, the C-P relationship runs the risk of being associated with North American culture. Some studies rely on data obtained only from managerial personnel, which is precisely not representative of an organization's culture. Very few studies have used representative samples of respondents within each organization, a condition that, in our view, is pertinent to a quantitative assessment of an organization's culture. The definitions of organizational culture (OC) vary greatly from 'perceptions of organizational practices' (most scholars reserve this for 'climate') to 'behavioral patterns'; most of the definitions also include 'values' or 'beliefs.' Typical of the studies listed in Table 1 is an unclear connection between the conceptual definition of OC and the operationalization or measurement of OC. Moreover, the variety of (mostly financial) performance measures is noteworthy. The studies listed in Table 1 hardly deal with legitimation for aggregation of the data nor with common method bias. Hence, when designing a new C-P study, researchers are advised to: 1) draw truly representative samples within organizations; 2) draw samples outside the US; 3) be more explicit in defining and operationalizing OC; 4) account for aggregation issues, and 5) for common method bias.

On a positive note, however, the assumed connection between C and P has been studied with many different sets of OC dimensions and operationalizations (see Table 1). This great measurement variety adds to the credibility of the assumed connection. When reading the findings of the studies listed in Table 1 (see last column), we note that no matter how preliminary each single contribution purported to be, it had been established that organizational culture can be predictive of organizational effectiveness (see also Barney, 1986: 659). However, taking the above points of criticism into consideration, the empirical fact would need to be worded more tentatively: various intraorganizational aspects of what has been labeled organizational culture have been shown to be significantly related to various objective organizational performance indicators.

In light of this conclusion, Lim's (1995) contribution, entitled 'Examining the organizational culture and organizational performance link' is noteworthy. His review of the C-P literature ends with a plea for 'more rigorous and conclusive findings' (Lim, 1995: 16). The importance of the organizational-culture construct (in Organization Science) is at issue here; there are clear proponents and opponents, even in management practice. In order to resolve this situation, more and better empirical research on the culture-performance link is needed. This is especially necessary in order to counteract statements such as the following, (Willmott, 1997: 93): '...it was naively anticipated that culture would provide the much-needed key to higher levels of productivity and ultimately increased profitability.' We now know that Willmott's point is mere opinion, but there are similar voices to be found in earlier academic OC literature (e.g., Siehl & Martin, 1990; Trice & Beyer 1993). Nevertheless, we set out to test the C-P link in a rigorous fashion.

Leadership-Culture

The literature is clearer about the link between organizational leadership and culture (or the L-C part of the LCP model), but this is not the result of different interpretations of the empirical literature. Rather, it is due to a near absence of empirical results in the face of plentiful claims of the importance of the link (e.g., Denison, 1990; Hampden-Turner, 1994; Yukl, 1997: 7). Reynold (1986: 343), for example, noted a 'lack of systematic studies of the factors affecting organizational culture' (see also Bass, 1997: 9; Trice & Beyer, 1993: 255; Chatman & Jehn, 1994: 547; Koene, 1996: 35-42; and Lim, 1995: 20). Hence, there are many claims but very few empirical findings regarding the effects of organizational leadership on culture.

Additionally, a critical reader of organizational-culture operationalizations may note that leadership content is often included. For instance, one of the three items of 'employee orientation' in Koene's study (1996) is 'management is generous with little things.' The organizational-culture operationalization from Hofstede et al.'s (1990) (from which Koene derived his items) contains

even more items that explicitly refer to leadership behavior (see also Table 2 from Hofstede, Harris Bond, & Luk, 1993). Note that Hofstede et al. (1990: 311) concluded that '...key leaders undoubtedly shape organizational cultures....' He cannot possibly have obtained this conclusion from the same questionnaire study where leadership was (unintentionally) included in the measurement of organizational culture. Marcoulides and Heck's (1993: 223) operationalizations of culture also contain contents like 'the extent to which managers take personal interest in the welfare and performance of their employees;' and 'the extent to which employees perceive that management involves them in the decision-making process.' Calori and Sarnin (1991: 67-68) even operationalize OC as management practices. Examples of their OC items with a high L content include: 'employees' needs are taken care of' and 'long-term implications of decisions are considered.' A clearer example of (unintentionally) merging both constructs (L and C) is perhaps impossible. Our conclusion on the L-C link is that part of what is thought to be the construct of organizational culture is, in fact, organizational leadership.¹

This tendency to overlap L-C operationalizations is a serious methodological and conceptual issue.² At the same time, there is no evidence indicating that the L-C link is not important. However, the issue is not simply the existence of a possible link, as some influential authors have postulated (see also Trice & Beyer, 1993; Kets de Vries & Miller, 1984) with little research to support their claims. Of greater managerial relevance is the way in which leadership is associated, through culture, with the bottom-line or objective performance of a firm.

Leadership-Performance

Let us now consider the leadership variable in the LCP model (i.e., beyond the apparently blurred L-C link). The prevailing Leadership paradigm at the moment is clearly that of Bass and associates, for whom leadership effects are the focal point (see Pawar & Eastman, 1997). According to this paradigm, a transformational leader is better than a transactional leader, and much better than a passive, so-called 'laissez faire' type of leader. Recent studies have shown, that transformational plus transactional leadership (hence a more balanced style) will do even better (Bass, 1997; Geyer & Steyrer, 1998; Hater & Bass, 1988; Lowe, Kroeck, & Sivasubramaniam,

¹The degree to which leadership items contain OC content is also an issue that needs to be addressed. The lack of attention for this operational overlap between L and C provides some evidence for a point made at the beginning of the paper: the generally monodisciplinary approach to L and C, separately.

²Note that dimensions and operationalizations of 'organizational climate' also suffer from the same problem of having management behavior in their descriptions (see, e.g., Koppelman, Brief & Guzzo, 1990: 296).

1996). An important question is to what extent this combinatory or more balanced leadership style promotes the well-being or performance of work units or the organization at large.

In 48 R & D project groups in three organizations, Keller (1992) found transformational leadership as well as consideration and initiating structure to predict project performance. Here again, we find evidence of the successful combination of task-orientation or transactional leadership with a transformational style; note here that 'consideration' or relationship-oriented behavior appeared to be especially important. Keller (1992: 499) concludes that 'what appears to be needed is additional construct and psychometric development of the theory of transformational leadership and the instruments used to measure its dimensions.' Hence, merely relying on Bass' relatively popular Multifactor Leadership Questionnaire would not provide the necessary additional material on the effects of transformational leadership (Lowe, Kroeck, & Sivasubramaniam, 1996).

Operating from a different perspective, Hart and Quinn (1993) also found that top leaders who display 'behavioral complexity' are positively associated with firm performance. Achieving 'mastery of diverse and seemingly conflicting roles will deliver higher firm performance' (Hart & Quinn, 1993: 544). Yet Hart and Quinn conclude that 'other samples of organizations with more refined measures' (570) would be needed to demonstrate more convincingly the link between objective organizational performance and leadership style.

On the basis of a comprehensive literature review, Berkely Thomas (1988: 399) correctly concluded that 'leader differences do account for performance variations within firms to a substantial degree.' He notes that a significant L-P linkage will probably be found if a fairly homogenous sample of firms is taken (e.g., within one firm, as in our study). Since few homogenous organizational samples are readily available, it is not surprising that we know of very few studies citing evidence for this L-P link (see also Day & Lord, 1988).

A leading leadership theorist, Gerry Yukl, aptly contends 'that effective leaders find ways to integrate task and people concerns so that both can be satisfied to a considerable extent' (Yukl, 1997: 2). Yukl also notes a tendency towards a paradoxical, complex, or balanced style of leadership (i.e., not exclusively transformational, but also relationship- and result-oriented); an effective leader is able to reconcile seemingly conflicting demands (like relationships and results). Such a leader would need to treat employees effectively in order to obtain good results, not only in terms of organizational productivity but also in terms of employees' satisfaction (see Davis, Schoorman, & Donaldson, 1997; Hampden-Turner, 1994). In the Method section, we will describe how this complex or balanced notion of effective leaders is reflected in our measure of leadership. It is our view that excellent leaders should have a strong result and relationship orientation and should be able to exhibit some transformational behavior.

Organizational-Culture Gap

We will now turn to the heart of the LCP model, to the notion of organizational culture (OC). Hardly any organizational-change process takes place in the (Western) world in which constituencies do not talk about an organization's culture. Even though it is not uniformly defined (either in practice or in academia), nearly everyone agrees that OC is indicative of an organization's 'character' or 'code' (March: 1991: 74). It: (1) is to some extent shared by the employees of an organization; (2) operates implicitly most of the time; and (3) is usually taken for granted within an organization (Kluckhohn, 1951). Trice and Beyer (1993: 5) add to this characterization of OC that it is 'historically based,' 'emotionally charged,' 'dynamic,' 'inherently symbolic,' and 'fuzzy.' In this study, we set out to make OC concrete and quantitatively measurable.

Of all the nomothetic studies on organizational culture, Hofstede et al. (1990: 311) provides one of the most concrete definitions of the construct: 'shared perceptions of daily practice.' This definition resembles definitions of 'organizational climate,' which is widely considered something less comprehensive than culture. Therefore, we have added to Hofstede et al.'s notion of OC. When also assessing employees' *preferences* regarding organizational practices, OC assessments include organizational values, beliefs and norms: OC as employees' perceptions *and* preferences regarding organizational practices. This would be compatible with most existing OC definitions (see Table 1, column 4). Employees tend to have preferences regarding the ways in which the organization works. Assessing such preferences along with mere perceptions (or registrations) of how the organization works, we assume that individual employees may not only differ from each other in terms of how they register their organization's practices, but also may differ in their appreciation of those practices. Thus, there may be significant contrasts between how an employee registers versus judges his or her organization's practices. Such a collision, clash³, or gap ought to be tapped at the employee level and, if conditions permit, be aggregated to the organizational level (Rousseau, 1990). Therefore we think it is not only the perceived current organizational practices but also the way in which a representative set of individuals judge the way the organization ought to work that determines the culture of an organization. Hawkins (1997: 419) would concur with us. In his critical review of 7 books on organizational culture he states that 'the most

³ Koppelman, Brief and Guzzo (1990: 286) note that the term 'culture clash' is usually found in cases of resistance to merging two organizational cultures (see also Young & Bradford, 1977; Walter, 1985). In this paper we conceive of organizational culture as the degree of clash (in the eyes of employees) between the 'ist' and 'soll' organizational situation. We refer to this difference score as 'gap.' This in accordance with the fact that the term 'clash' is reserved for situations of drastic or strategic organizational change such as mergers/acquisitions.

often used definition of culture in organizations is Ouchi and Johnson's (1978) reductive and simplistic definition "how things are done around here," which is fine at the behavioral level but which ignores the deeper levels of culture--mindset, emotional ground, and motivational roots.'

Hence, in order to take individual variation into account vis-a-vis an organization's culture (which 'organizational culture strength' incorporates only implicitly: Weeks, 1994), two individual-level measurements must be taken: one that taps the average perceived OC ('ist'-situation) and one that taps the preferred OC ('soll'-situation). Such a 'twin' dataset would yield much more information about how the OC operates than any one single assessment of OC. This 'dual organizational practices' view of OC is very different from that of Chatman and Jehn (1994: 531) who state that 'speaking of a profile of an organization's culture is only meaningful when there is high consensus among members about organizational values.' We argue that no matter how widely different organizational members relate to the ways in which the organization works, when assessing the 'ist' and 'soll' states (or perceptions and preferences regarding the same organizational practices) of a representative set of employees, the actual level of consensus or gap can be empirically examined, which is informative about an organization's culture.

In terms of content, OC is usually operationalized with a number of dimensions which, when taken together, are indicative of an organization's culture. A key question is: What dimensions cover the content of the generic notion of OC? No definitive answer is available at the moment. There is great variety in the sets of published OC dimensions: see Tables 1 and 2. Is there any guide to choosing OC dimensions? No, but much has been written on OC. Hence, one can make 'educated choices' based on the many ways in which OC is operationalized by various authors. We have selected the following five organizational practice dimensions: 1) Empowerment, 2) Intergroup Orientation, 3) Human Resource Orientation, 4) Improvement Orientation, and 5) External Orientation. In the remainder of this section, we will justify this choice.

In many views on organizational culture, some aspects of organizational structure have been incorporated (Baligh, 1994; Barney, 1986). Willmott (1997: 93) goes as far as writing that '...there is no conception of culture and structure constituting distinct, irreducible strata of reality...'. Hence, it makes sense to incorporate in our measure of culture important structural content that affects employees' perceptions of the functioning of the organization. We included one generic aspect of task structures (see Marcoulides & Heck, 1993): empowerment, or the degree to which organizational members have sufficient decision latitude; The structure of someone's task can be more or less empowered. In highly centralized and formalized work environments, we tend to find jobs that are low in empowerment (Spreitzer, 1995).

Moreover, we included intergroup orientation or an organization's horizontal differentiation (vertical differentiation is reserved for the leadership factor, which we see as separate from culture). Horizontal differentiation may raise barriers to productive intergroup communication, which tend to hinder organizational functioning. Hence, both empowerment and intergroup orientation will have an impact on ways in which employees of an organization perceive and judge its practices. And since much of any structure of any organization is crystallized in these two variables, we can say that we have sufficiently included the structural aspect embedded in the construct of organizational culture. Therefore, of all of the possible organization-structure aspects, we see 'empowerment' and 'intergroup orientation' as most influential for employees' perceptions and preferences regarding an organization's work practices.

What other internal aspects or dimensions of organizational culture figure in the literature? In many writings, one finds Human Resource content as an explicit part of the organizational culture construct, for instance in Gordon (1990). Some authors discuss human resource management quite seriously in the context of organizational culture, without defining it as a part of the construct itself (e.g., Koppelman, Brief, & Guzzo, 1990). Given the very broad perspectives of each of the constructs alone, it would be strange if they did not overlap in part (see also Gordon & DiTomaso, 1992; Marcoulides & Heck, 1993; Quinn, 1988).

There is another aspect of an organization's functioning that is indicative of an organization's culture. This aspect, called here the degree of improvement orientation among personnel, connotes a shared level of ambition; a concomitant degree of commitment to high-quality work as well as a positive inclination toward organizational change (see also Rousseau, 1990). This dimension, improvement orientation, was chosen in order to tap the degree of proactive employee behavior that is intended to change organizational practices in order to achieve ever better results.

In discussing an organization's character, finally, one cannot overlook an organization's degree of external orientation. Open systems theory and many other writings on organizations as a whole have made that clear. See Schein, 1985, and Hofstede et al., 1990. In nearly all operationalizations of Table 1 and many other OC questionnaires, we found that 'degree of external orientation' was a definite part of the culture or character of an organization.

In summary, when operationalizing the OC construct, one has to take a broad or eclectic intraorganizational view. If a representative sample of employees is used to assess the culture, assessing preferred minus perceived daily organizational practices seems advisable. In preparing an instrument that would sufficiently cover the construct space, it is necessary to select different factors that, taken together, would be representative of the prototypical intraorganizational factors such as task structure, horizontal organizational structure, human resources, level of ambition or

learning as well as the degree of external boundary crossing. These five factors or dimensions at the conceptual level seem sufficiently different so that, together, they may represent a large part of an organization's culture. There may well be slightly different sets of aspects that could cover the construct space; the main point here is that apart from being methodologically sound, they need to be quite broad and varied and should include both structural, human resource-relevant, and strategically-relevant content (see also Chatman & Jehn, 1994). Table 2 presents a comparison of our five dimensions with the dimensions (and their constituent items) of major corporate-culture questionnaires.

Insert Table 2 about here

LCP Theory

What other, more abstract theoretical arguments can be presented in support of the overall LCP model? Following the Resource-advantage theory (Hunt, 1997), firms are seen as bundles of financial, organizational, human, informational and relational resources. These resources or factors may be predictive of (superior) financial performance. This framework, better known as the Resource-based theory of the firm, is the only one into which the entire LCP model would fit.

Barney (1986) raised the question whether organizational culture can be an important source of sustainable competitive advantage. He concluded that only if a culture is relatively rare, imperfectly imitable, non-substitutable, and valuable, will it lead to high and sustainable financial performance. Apart from the fact that variables such as rareness, imitability, and substitutability of a culture are hard to operationalize, Barney did not answer the question when an organization's culture is truly valuable. In 1991 (102), Barney suggested that a 'value creating strategy' is ultimately selected by top management: '...managers are important..., for it is managers who are able to understand and describe the economic performance potential of a firm's endowments... Indeed, it may be the case that a manager or a managerial team is a firm resource that has the potential for generating sustained competitive advantages' (Barney, 1991: 117). Hence, from a Resource-based perspective, it makes sense to test the relative importance of top leadership empirically, especially in conjunction with the organizational performance value of culture. Organizational culture is assumed to be a summary type variable for most of a firm's tacit resources, excluding top management. Apart from a joint effect with organizational culture, we postulate that within the context of the Resource-based theory of the firm, top leadership style has a direct effect on organizational performance.

Oliver Williamson's (1996) most recent book, *The Mechanisms of Governance*, provides additional support for the relative importance of organizational leadership and practices. In discussing 'inferior organization and maladapted operations' (Williamson 1996: 310), he states: 'That the profits differ in two firms in the same industry using the same technology selling to the same customers is not because the managers in the one are working harder than managers in the other. Instead, managers in the two firms are working equally hard but one is working smarter -- better organization form; better internal incentives and controls; better alignment of the (interfirm and intrafirm) interfaces.' Williamson underlines the importance of studying such 'formidably complex' (311) work settings with a reorganization example 'that eliminates unneeded bureaucrats and wasteful bureaucratic practices' (Williamson 1996: 310). For the LCP model, which is primarily conceived of as an eclectic Organization Studies model, Williamson's focus on top leadership and organizational practices or culture is a welcome confirmation. Hence, Organizational Economics is quite compatible with the managerial LCP model discussed here (see also Camerer & Vepsäläinen, 1988; Barney & Hesterley, 1996; Hansen & Wernerfelt, 1989; Rowlinson & Procter, 1997: S31). Not only the emerging Resource-based theory of the firm but also a key author on Transaction-cost Economics is starting to consider top leadership and organizational practices/culture as important sources of performance variation. Exactly what kind of top leadership behaviors and organizational practices would be most desirable was left unspecified in both theoretical frames. For such specifications we had to turn to studies in the various subareas of Organization Studies, as discussed earlier.

Summary of Hypotheses

1. Scoring high on balanced transformational top leadership style is significantly associated with a relatively small organizational culture gap which, in turn, is significantly associated with high firm performance.
2. Scoring high on balanced transformational top leadership style has a direct and significant association with high firm performance.

We conducted two studies in one of the biggest Dutch banks. First, we conducted a pilot study to develop the questionnaire instrument. The definitive instrument was based on data collected in the main study. Both hypotheses (summarized in Figure 1) were tested against data from the main study.

 Insert Figure 1 about here

METHOD

Participants, Data Collection, and Aggregation

Pilot study. Four local bank branches and one department of the headquarters of one of the biggest comprehensive banks in the Netherlands were involved. Within the population of 596 local bank branches, four types were identified: small, small-to-medium, medium, and large banks (12 to 30 employees; 31 to 60 employees; 61 to 100 employees, and more than 100 employees, respectively). Within this particular bank organization, local banks are legally autonomous from headquarters; associated local banks retain their original European-style cooperative charter where the clients (historically farmers) collectively own the local bank (branch), and a small group of representatives from the 'local elite' form the local board of governors. However, from an organizational point of view, this one bank is comparable to any locally operating Western service firm that is part of a larger, nationwide organization with many more similar, local firms, serving similar types of clients in different geographical markets.

One bank of each type was asked to participate (in return for a feedback report); all four banks agreed to take part. The employees of these banks, as well as the employees from one non-randomly selected headquarters' department involved in this pilot-study, received a questionnaire at their work place. Anonymity was guaranteed. The total number of respondents was 282, yielding a response rate of 59%. The average age of the respondents was almost 37 years; the average number of years they had been employed by the bank was 12; fifty percent were male; 42% had a Bachelor's degree (or its equivalent) or a higher degree, and 18% of the respondents had a managerial position.

Main study. From the population of nearly 600 local bank branches, some were excluded from participation: very small branches (with fewer than 12 employees) as well as local banks that had participated in the pilot study, and recently merged banks. In all, 535 banks remained. The random selection of 61 branches was stratified on the basis of the same four size categories as identified in the pilot study. All employees of each of these selected banks (a total of 3258 employees) received a questionnaire and prepaid return envelope at their home addresses. This amounted to almost 10% of the entire group of employees of all associated banks. The response rate of this group of employees was 60%. Two small local banks were rejected from the analyses on the aggregated level because fewer than five employees had responded. The financial performance data of one local bank were not available. Besides this main sample, 422 employees of the headquarters filled in the questionnaire. Because no performance data was available for headquarters, this sample will only be used for measurement purposes and will be called the hold-out sample. The questionnaires were filled in and returned between December 1995 and January 1996.

In the sample of 58 banks, 50% of the respondents were men. The mean age was 35 years ($SD = 9.6$). The mean number of years of employment at the local bank was 10. In this sample, 12% belonged to the management team and 27% were working in managerial positions. The percentage of employees with a high level of education (i.e., at least a Bachelor's degree) was 41%. Employees of this bank were divided into twelve job levels. The sample consisted of 75% respondents holding lower level jobs (1 - 6) and 25% holding higher level jobs (7 - 12).

The chosen levels of analysis are of paramount importance for the results of an organizational study. There is no doubt that the main analyses of the study should be done at the organizational level, but there is some choice regarding the level at which the measures are constructed: individual or organizational level. Both levels are legitimate in principle. Rousseau (1985: 19) warns us not to aggregate too quickly because 'Cross-level effects may in fact exist simultaneously with intra-level effects.' In other words, if the measures are constructed on the basis of aggregated data, a more refined differentiation between constructs will be lost. Also, because of the lower number of cases in the aggregated data, the perceptual measures were constructed with individual data first. The same analyses were performed on the aggregated data.

Measures

Balanced transformational leadership style. In the pilot study, we developed a new scale. Seven forced-choice items were formulated, beginning with the heading 'The management of your bank.' Behavioral descriptions followed. Answers were: 1. oriented on both relations and results, e.g., 'is concerned about the well-being of personnel and achieving results'; 2. an exclusively relationship-oriented version; 3. a solely result-oriented version of the same behavior. The respondents were asked to indicate the most frequently occurring leadership behavior as well as the most desired leadership behavior. We believed that effective leaders are both relationship- and result-oriented in the eyes of the employees. This assumption was overwhelmingly confirmed by the fact that the corresponding behavior was chosen as most desired by 89% of the employees. We kept, therefore, *the degree of relation- and result-orientation of leaders* explicitly in the main study.

In this main study, another more informative format was used. Likert-type questions focused on relationship- and result-oriented behaviors (based on pilot study formulations). Additionally, nine transformational behavior items of the Multifactor Leadership Questionnaire (MLQ) (Bass & Avolio, 1989, translated into Dutch by Den Hartog, Muijen, & Koopman 1994) were added. Many items were slightly adjusted since the wording of the MLQ items gravitated towards supervisory leadership style and we focus on top leadership style. Employees were asked: 'To what extent does the management of your local bank exhibit this behavior?'

Exploratory factor analysis (principal components analysis and varimax rotation) on the nine transformational leadership items, together with four relationship- and result-oriented leadership items, showed that the items formed only one dimension. The results are shown in Table 3. With nine items that show the highest loadings (underlined), a scale was constructed called Balanced Transformational Leadership Style. This scale has a Cronbach's alpha of .92.⁴

Next, the 14 leadership items were aggregated on the local bank unit level, and the same analyses were performed. As shown in the last column of Table 3, the results are quite similar to those carried out at the individual level of analysis. Because correlations among aggregate variables tend to be higher than their individual level counterparts (Hammond, 1973), the factor loadings in the second analysis are higher. Note that the relative positions are nearly the same; With the exception of item 10, the items used to construct the scale had the highest loadings on the factor on the aggregated level. The Cronbach's alpha calculated on the aggregated nine items is .97 ($N = 58$).

Insert Table 3 about here

One precondition for data aggregation is relatively high perceptual agreement within units. In order to test this precondition, an analysis of variance was performed with the local bank as independent variable and the scores on our leadership scale as dependent variable. The results were: $F(57,1374) = 7.14$, $p < .001$ and $ICC(1) = .86$. Results show that the between-group variance significantly exceeded the within-group variance, and that the agreement among respondents was high enough to allow aggregation.

Organizational culture gap. Before the pilot study took place, many interviews were held in various parts of the bank organization to elicit relevant organizational culture dimensions and to be able to formulate and check new items. Some dimensions and items were derived from our extensive review of similar existing scales (see Tables 1 and 2). In the pilot study, we tested our new organizational culture questionnaire, consisting of two parts. Each employee was asked to answer the question: 'How often is this applicable to your organization?' followed by 45 items. Additionally, employees were to answer, for the same items, the question: 'How often should this be applicable in your organization?' The answer categories ranged from 1 (very rarely) to 5 (very

⁴ An identical scale was used in a sample of 46 small Dutch and German ICT-service firms. The Cronbach's alpha of this scale was .94 (see Glunk & Wilderom, 1998). In another sample --a representative sample of workers of a plant of a large Dutch manufacturing firm-- where we used the identical leadership scale, we obtained a Cronbach's alpha of .92 ($N = 279$).

often). The following five scales were developed using (principal components with varimax-type) factor analysis on the individual answers of the first part of the questionnaire (perceived or 'ist' part): 1. Empowerment, 2. Intergroup Orientation, 3. Improvement Orientation, 4. External Orientation, and 5. Human Resource Orientation. The Cronbach's alphas were .77, .86, .81, .83, and .82., respectively. The Cronbach's alphas of the corresponding scales pertaining to the preferred or 'soll'-culture dimensions were .74, .74, .67, .76, and .75, respectively.

In the main study, some items were slightly modified, and a few were added. The two key questions in the questionnaire heading were modified: 'To what extent does the following occur in your organization ...?' and 'In your view, to what extent should the following occur in your organization in the year 2000 ...?' The answer categories continued to range from 1 (very rarely) to 5 (very often). In order to construct individual level scales that are as independent as possible, a principal components factor analysis with varimax rotation was carried out on the perceived practices items. The five-factor solution yielded the factors presented in Table 4. Thirty of the 35 items belonging to an intended culture dimension had highest loadings on the corresponding factor. Each factor represents one of the preconceived culture dimensions; hence, the factor structure of our culture questionnaire is sound. This result was replicated in the hold-out sample of respondents working in headquarters. In this sample, 27 items had highest loadings on the intended factor.⁵

For the purpose of constructing the scales, the items loading highest on the intended dimension (underlined) were used. The Cronbach's alphas of the perceived scales of Empowerment, Intergroup Orientation, Improvement Orientation, External Orientation, and Human Resource Orientation were .83, .83, .81, .81, and .78, respectively. The Cronbach's alphas of the corresponding preferred-practices scales were .78, .82, .84, .84, and .80, respectively.

Insert Table 4 about here

In order to test whether the results of the factor analysis on the individual level could be generalized to the organizational level, the scores on the perceived items were aggregated to the level of the local banks and factor analyzed. Following textbooks on factor analysis, the number of cases should be much larger than the number of variables. The main reason for this is that the

⁵ Also, in the representative sample of 279 respondents of a large Dutch manufacturing plant (see footnote #4), the same factors were obtained. The Cronbach's alphas of the perceived practices scales there ranged from .67 to .92.

item scores of individual respondents are rather unreliable. However, our aggregated scores were based on the mean scores of many individuals, and such means are extremely stable (Hofstede, Neuijen, Ohayv, & Sanders, 1990). This also applies to the other analyses on our aggregated data. The same five-factor solution yielded the factor structure presented in Table 4. Although some items loaded lower or higher on the intended factor, the results of Table 4 show that the five intended factors were extracted on this level as well. Hence, the culture dimensions exist on both the individual and the organizational level. Because the differences between the factor structures are small and the number of cases is highest on the individual level, the scales were constructed with the individual level data. On the aggregated level, the Cronbach's alphas of the resulting perceived scales of Empowerment, Intergroup Orientation, Improvement Orientation, External Orientation, and Human Resource Orientation were .86, .90, .93, .87, and .78, respectively. The Cronbach's alphas of the corresponding preferred scales were .85, .85, .85, .83, and .82, respectively.

In order to investigate the construct validity of the perceived practices scales, respondents were also asked to rate their organization on single items representing global measures of the constructs. The heading, 'This local bank ...,' was followed by the item: 'gives employees latitude in taking decisions' (Empowerment), 'has departments that work well together' (Intergroup Orientation), 'is geared towards improvements' (Improvement Orientation), 'is customer-oriented' (External Orientation), 'stimulates its employees to perform exceptionally well' (Human Resource Orientation). The items had five answer categories ranging from 'strongly disagree' to 'strongly agree.' The scores on these items and the perceived scales were aggregated on the organization level, and the correlations between these groups of variables were calculated (see Table 5). Four scales correlated highest with the item representing the construct they measured. However, Improvement Orientation correlated highest with the global measure of Human Resource Orientation. This result can be explained by the fact that the content of the global measure of Human Resource Orientation is related to the concept of Improvement Orientation. Nevertheless, the construct validity of the Improvement Orientation scale still needs to be demonstrated. For the greater part, the results confirm the construct validity of these perceived practices scales.

Insert Table 5 about here

In the present study, the construct of organizational culture gap was used, which is indicated by measuring the differences between the perceived practices scores and the corresponding preferred scores. Edwards (1994) developed a method to investigate whether the model

implied by the algebraic difference index is tenable. Following this method, the two component scores are entered simultaneously in the regression to predict a criterion. If the model is tenable, the coefficients on the components will be significant, opposite in sign, and not significantly different. On the aggregated level, this method was applied to each pair of the perceived and corresponding preferred organizational practice dimension. Perceived organizational performance (see below) was used as a criterion. The results of the regression analyses with the component scores are presented in Table 6. In three cases, the perceived and preferred scores contributed significantly to the prediction in an opposite direction. In all cases, the corresponding coefficients did not differ significantly. In the two cases in which one of the coefficients on the components were not significant, the difference score predicted nearly as well as the optimal combination of the scores. Furthermore, the β -coefficients had the expected direction and would have been significant if the number of cases had not been as low as they were in the present study. Because our prespecified model entailed the degree of the organizational culture gap, we used the algebraic differences between the perceived scores and their corresponding preferred scores. There was no need to use absolute difference scores, because after aggregation on the level of local banks, all preferred scores were higher than the corresponding perceived scores. Therefore, we concluded that the algebraic difference scores can be used to measure organizational culture gap.

Insert Table 6 about here

Johns (1981) discourages the use of difference scores for two reasons. His first argument is that the reliability of difference scores tend to be low. However, because the aggregated component scores have high reliability and the correlations between corresponding component scores are low, ranging from -.13 to .15, our aggregated difference scores turned out to be very reliable. The reliabilities of the culture gap scores are the following: Empowerment gap: .87, Intergroup-orientation gap: .89, Improvement-orientation gap: .91, External-orientation gap: .85, and Human Resource-orientation gap: .79. Johns' second argument for not using difference scores is that data on the incremental validity of the difference scores is usually lacking. In the present study, however, the incremental validity of three culture-gap scores was demonstrated by using Edwards' methods.

In order to explore further the nature of our culture-gap measure, we related it to the widely used construct of culture strength. According to Gordon and DiTomaso (1992), high-performance organizations are characterized by strong cultures. We assumed that culture gap is related to culture strength. In our study, culture strength was measured in two ways: (1) the stan-

dard deviations of the actual practices scales within each local bank (the most common measure), and (2) a single item: 'This local bank has a strong own character,' with five answer categories ranging from 'strongly disagree' to 'strongly agree.' The correlations are presented in Table 7. The results show that the culture gap dimensions are related to the corresponding culture strength dimensions (based on standard deviations), with the exception of Empowerment. This means that in local banks with large differences between perceived and preferred organizational practices, the employees indeed differ greatly in their perception of these practices. Note, also, that all the culture gap measures are significantly related to the single item 'strong own character' (see last column of Table 7). Obviously, the overall construct 'culture gap' is therefore related to (but much more concrete than) 'culture strength' (see last row of Table 7).

Insert Table 7 about here

In order to test the perceptual agreement within versus between local banks, analyses of variance were performed on the culture gap scores. The results for the five culture-gap dimensions were: Empowerment: $F(57,1374) = 4.4$, $p < .001$, $ICC(1) = .78$; Intergroup Orientation: $F(57, 1374) = 3.7$, $p < .001$, $ICC(1) = .73$; Improvement Orientation: $F(57,1374) = 4.0$, $p < .001$, $ICC(1) = .75$; External Orientation: $F(57,1374) = 5.7$, $p < .001$, $ICC(1) = .83$; and Human Resource Orientation: $F(57,1374) = 4.7$, $p < .001$, $ICC(1) = .80$. In all cases, results show that the agreement within local banks were high enough relative to the differences between the local banks, indicating that aggregation is justified.

Perceived organizational performance. In both studies, the respondents were asked: How many improvements should the local bank make with respect to various performance indicators. In the pilot study, the following indicators were used: (1) 'efficiency,' (2) 'position on the market,' (3) 'business administrative behavior,' and (4) 'professional behavior.' The Cronbach's alpha on the individual level was .64. In order to improve this scale in the main study, 'position on the market' was incorporated into the broader item 'reputation' (see Fombrun, 1996). The Cronbach's alpha of this 4-item scale calculated for the individual data was .72. On the organizational level, this coefficient was .83. An analysis of variance showed that aggregation of the scale scores is justified: $F(57,1374) = 6.64$, $p < .001$, $ICC(1) = .84$.

Objective organizational performance. Objective organizational performance was defined by the ratio of profits (excluding the results obtained with own assets) to the total costs of the local banking operation. This sole performance ratio is considered to be highly reliable and is most widely used within this bank and also by external (Dutch Central Bank) inspectors who

regularly examine and compare the performance of Dutch banks (branches). We could only obtain the performance data for the year 1995 for our local banks in the main study.

Analysis

The hypothesized model was tested by means of LISREL 8 (Jöreskog & Sörbom, 1993). LISREL can do a normal path analysis, but has the added bonus that latent variables can be constructed. Path coefficients resulting from a LISREL analysis are corrected for unreliability of the measures. LISREL tests whether a series of causal relations fit the data. A good fit is necessary. Of course, definitive conclusions about the direction of the effects cannot be made on the basis of cross-sectional data alone. The hypotheses have been formulated accordingly.

RESULTS

The results presented in this section relate to the aggregated level of analysis. The correlations between the main variables and the relevant statistics are presented in Table 8. Obviously, the correlations among the questionnaire variables are rather high.

Insert Table 8 about here

Because the data on the perceptual variables were collected using only one method, viz., the questionnaire, a correction for common method variance was required. We applied the procedure used by Schmit and Allscheid (1995) to the main study data. The respondents from each local bank branch were randomly divided into two equal or nearly equal groups which were labelled subsample A and B. In these two subsamples, the mean number of respondents per branch were 13.1 and 13.3 respectively, and the minimum number in both samples was 3. The scores on balanced transformational leadership style, culture gap, and perceived organizational performance were aggregated in samples A and B. Two sets of mean scores on the same variables were thus available for each local bank branch: the scores derived from sample A and the scores derived from sample B. The correlations between these two sets were calculated. These correlations between the same measures from the two subsamples represent intergroup reliabilities and are presented on the diagonal of Table 9. These intergroup reliabilities range from .58 for the culture dimension of external orientation to .80 for empowerment, indicating that the intergroup reliabilities are sufficient. The relationship between two different variables was thus expressed in two correlations, for example, the correlations of X from sample A with Y from sample B, and the

correlations of Y from sample A with X from sample B.⁶ These correlations cannot have been affected by sources of common method variance because the scores were derived from different subsamples. The corresponding off-diagonal correlations were averaged and are given in Table 9 below the diagonal.

Insert Table 9 about here

To test the hypothesized LCP model presented in the introduction and Figure 1, a path analysis with latent variables was performed using LISREL. The matrix of Table 9 formed the input. As recommended, we first tested the measurement model with confirmatory factor analyses on the variables of organizational performance and organizational culture gap independently. Because the set of five difference scores was assumed to comprise the construct of organizational culture gap, we expected that these scores could be explained by one latent variable. The results of confirmative factor analysis on the variables of organizational culture gap are presented in the first row of Table 10. The chi-square test shows that the model was not rejected, since the p-value is well above .05. All other coefficients fall within the range of what is considered a good model. Therefore, it was concluded that the variables measure one common factor: organizational culture gap.

Insert Table 10 about here

LISREL could not form a latent variable from the variables of perceived organizational performance and objective organizational performance because the solution failed to converge after 1000 iterations. Although the formation of one latent variable of organizational performance did not fit the data, the hypothesized structural model (A) was tested for a preliminary analysis. In order to form a latent variable of performance, the error variance of perceived organizational performance was set at .17 ($1 - \alpha$). The error variance of balanced transformational leadership was set at .03. The results presented in the second row of Table 10 show that the model as a whole was not rejected. Following Browne and Cudeck (1993), values up to .05 of the root-mean-square error of approximation (RMSEA) indicate a close fit and values up to .08 a reasonable fit. The RMSEA was sufficiently low, but the desired p-value was less than .95, indicating that the

⁶ Because the objective organizational performance data of the local bank branch was obtained using another method, this measure was not included in this subsampling procedure.

close fit was not convincing enough. The adjusted goodness-of-fit index (AGFI) and the normed fit index (NFI) compare the fit of the tested model with that of the independent model and should be higher than .90. The values of these indices show that the model was a rather good fit. However, the latent variable of organizational performance only explained some of the variance of objective organizational performance, and the path coefficient from balanced transformational leadership style to organizational performance was not significant.

Because objective and perceived organizational performance did not fit well into one latent variable, they were kept apart to form two latent variables. This modified model consisted of paths from balanced transformational leadership style and culture gap to objective and perceived performance, and a path from balanced transformational leadership style to culture gap. The error variance of objective performance was set at 0. The test results of this model (B) are presented in the third row of Table 10. The model was not rejected in the chi-square test. The RSMEA was low, but the p-value was not high enough. Also, the AGFI and the NFI did not reach the level of a well-fitting model. To optimize the fit with the data, we modified model B by deleting the path with the lowest coefficient: from leadership to perceived performance. The test results of this model (C) are presented in Table 10. Although this model had a better fit than model B, it was not found to be satisfactory either.

The modification index suggested adding a path from perceived to objective performance. Because 'perceived performance' measures the local bank's effectiveness in the eyes of employees, it is reasonable to assume that this variable affects objective performance. The goodness-of-fit statistics of this model (D) are presented in the fifth row of Table 10. The AGFI and the NFI show that the data fit was good. The p-value associated with RMSEA was also good. The ECVI measures the discrepancy between the fitted and the expected correlation matrix that would be obtained in another sample. From the models with the same variables, the one with the smallest value will hold up best in cross validation. Hence, model D was chosen as the final model.

Model D is presented in Figure 2. All the path coefficients of this model are significant and most of them have the expected sign. However, the path coefficient from culture gap to objective performance is positive, while it was expected to be negative. Although the correlation between the latent variable of culture gap and objective performance is zero, the path coefficient between these variables is rather high. This indicates that leadership and perceived organizational performance are suppressors of the relationship between organizational culture and objective performance. The results show that organizational culture gap consists of two parts: one that is negatively related to balanced transformational leadership and perceived organizational performance and another part that is positively related to objective organizational performance.

Insert Figure 2 about here

To test the robustness of the results obtained with LISREL, we also performed regression analysis. Because corrected scores on the level of branches were not available this was done using uncorrected data. First, we calculated an organizational culture gap score using the same weights as in LISREL. Next, this score, balanced transformational leadership style, and perceived organizational performance were regressed on objective organizational performance, as is usual in path analysis. The beta coefficient of the culture gap score turned out to be $\beta = .53$, $t = 2.6$, $p < .05$. This result shows that the suppressor effect found is robust over methods.

Following the model presented in Figure 2, scoring high on balanced transformational leadership style yields a small organizational culture gap. However, it is also possible that organizational culture affects leadership. Therefore, we modified Model D by reversing the direction of the path. The path coefficients and the fit statistics of this modified model were exactly the same. This result shows that the suppressor effect found is not affected by changing the direction of the path between leadership and organizational culture.

In order to interpret the suppressor effect found we examined the bivariate correlations between the latent variables presented in Table 11. Organizational culture gap is negatively related to perceived performance and leadership which are, in turn, positively related to objective performance. Apparently, one part of organizational culture gap is, as hypothesized, negatively related to objective performance. But because culture gap, as a whole, is not significantly correlated with objective performance, there has to be another part of culture gap that relates positively to objective performance. This is of course that part that remains after the rest, with a negative linkage with objective performance, is partialled out. The finding that organizational culture gap is significantly related to objective organizational performance in two opposite ways is unexpected. The only possible explanation for this finding is an investment explanation. Top management that scores high on balanced transformational leadership may bring about a small culture gap (witnessed by the $-.49$ in Figure 2). Obtaining a small culture gap is costly, for it is found to be associated with low objective performance. However, at the same time, a small culture gap co-occurs with employee perceptions of high balanced transformational leadership and of high performance, which in turn are found to be positively linked to an organization's bottom-line.

Insert Table 11 about here

Our interpretation of the suppressor effect is summarized in Figure 3. The two shaded areas in the middle represent aspects of organizational culture which overlap with leadership and perceived performance and are, therefore, partialled out. What remains of the culture gap circle can be seen as investments that are made in an organization's culture. Consultants, management training, restructuring, reengineering and all sorts of conceivable projects aimed at changing the organization tend to cost time and take money away from the primary production processes which, in turn, reduces short-term profit (= our measure of objective performance: see under Method). By not investing in culture gap reduction, short-term financial performance may be raised but perceived effectiveness (and hence morale) goes down. This will, in time, be a disadvantage to any organization, especially service organizations where the impact of human capital is relatively great.

Insert Figure 3 about here

To summarize, model D represented in Table 10 and Figure 2 provides evidence for the LCP model as formulated in both hypotheses of the study. The results show that leadership as well as organizational culture are significantly associated with firm performance. Moreover, leadership is significantly associated with culture; The behaviorally complex leadership style, here labeled 'balanced transformational,' is likely to elicit a small organizational culture gap among its employees, in addition to its direct positive effect on a firm's short-term financial performance. A small culture gap is positively associated with high perceived organizational performance which, in turn, is positively associated with high short-term financial performance.

DISCUSSION

Our study is one of the few empirical studies we know of to date that has tested the relation between firm leadership and organizational culture and, at the same time, their links with objective, financial, organizational performance. We revealed, as hypothesized, a significant link between balanced transformational leadership style and organizational culture (gap) as well as a significant direct link between this leadership style and objective organizational performance. This study's confirmation of the LCP model affirms the Resource-based theory of the firm insofar as it argues that '...complex, interconnected resources...' such as leadership and culture, '...which have tacit knowledge dimensions, are likely to be ... successful in creating a long-lived competitive advantage in the marketplace...' (Hunt, 1997: 68). Due to the many more non-tacit knowledge dimensions the LCP-model of the firm may not hold as well in manufacturing work settings.

We discovered an unexpected and important suppressor effect that we interpreted as follows. A big organizational culture gap is associated with high, short-term firm performance. Hence, managing towards a small culture gap is costly. However, it is an investment that potentially pays for itself in the long run because a collective feeling of high effectiveness -which is found when there is little or no culture gap- impacts positively the bottom-line. Thus, given the positive (perceived) performance impact of having little or no organizational culture gap, it is advisable to obtain a small gap, despite any short-term adverse effect this might have on profits. Although the zero-order correlation between OC and financial performance is literally zero (Table 11), we showed that there is a significant association between organizational culture (gap) and performance in our sample. This is an association that, though obvious, may remain hidden in other similar data sets.

The lack of previously published evidence supporting the LCP model may be explained by the following: (1) we sampled firms within one organization, and these firms are all similar work settings (Berkeley Thomas, 1988); (2) our measures of leadership, culture and performance are reliable and valid; (3) most suppressor effects are hard to detect; and (4) leadership and culture are typically studied separately by organizational scholars from different subdisciplines (Organizational Behavior and Organization Theory, respectively). Given the typical monodisciplinary approach to the variables Leadership, Culture, and Performance, our nomothetic study may be justifiably called interdisciplinary and is hopefully one of many more to come.

Future research ought to sharpen the discriminant validity between the constructs of effective (top) leadership style and organizational culture (gap) in particular. Other studies may gainfully address the fit of certain styles of leadership with certain organizational-culture forms. Such work would potentially inform those who design future, hopefully longitudinal LCP studies. In such studies the LC-effects on short-term as well as long-term firm performance would need to be studied. Also the degree to which our effective leadership measure (labelled 'balanced transformational leadership') is universalistic is an issue that needs attention. The items we derived from the MLQ are decidedly less charismatic than the full notion of transformational leadership entails. This may perhaps show the European or rather Dutch character of the study. House et al's National culture or 60-country GLOBE study (1998) (which also takes both leadership and organizational culture into consideration) is likely to provide some insights into this matter.

This study has introduced a valid survey instrument for assessing leadership style and organizational culture that was considered useful in the various branches within the bank; all local bank branches that participated in this study obtained a practical feedback report, including benchmarks. This information is not so easily obtainable and transmittable in any other fashion.

Hence our quantifying effort proved practically relevant as well.

Compared to the popular measure of organizational culture strength, our measure of organizational culture gap is an improvement; Our measure assesses the extent to which the employees agree with existing organizational practices, formulated in very specific, behavioral terms. Interpretation of results obtained with this new measure of organizational culture will therefore be far less ambiguous. Given that modern-day employees are typically more forward than backward-looking, our measure of organizational culture may serve the recent surge of interest in organizational culture change.

In conclusion, our study's findings stress not only the importance of top leadership style but also of closing gaps between preferred and perceived organizational practices. Thus, instead of striving towards a typically vague sense of strong culture, it seems to matter for a service firm to strive to reduce the gap between employees' preferred and perceived organizational practices.

REFERENCES

- Baligh, H.H. 1994. Components of culture: Nature, interconnections, and relevance to the decisions on the organization structure. *Management Science*, 40: 14-27.
- Barney, J.B. 1986. Organization culture: Can it be a source of sustained competitive advantage? *Academy of Management Review*, 11: 656-665.
- Barney, J.B. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17: 99-120.
- Barney, J.B., & Hesterly, W. 1996. Organizational economics: Understanding the relationship between organizations and economic analysis. In S.R. Clegg, C. Hardy & W.R. Nord (Eds.), *Handbook of Organization Studies*: 115-147. Thousand Oaks, CA: Sage.
- Bass, B.M. 1997. Recent developments in transformational leadership and unresolved questions, Working paper for the Tilburg Leadership Symposium, WORC, Tilburg University.
- Bass, B.M. 1990. *Stogdill's handbook of leadership: Theory, research, and managerial application*. New York: Free Press.
- Bass, B.M., & Avolio, B.J. 1989. *Manual for the multifactor leadership questionnaire*. Palo Alto, CA: Consulting Psychologists Press.
- Berkeley Thomas, A. 1988. Does leadership make a difference to organizational performance? *Administrative Science Quarterly*, 33: 388-400.
- Browne, M.W., & Cudeck, R. 1993. Alternative ways of assessing model fit. In K.A. Bollen & J.S. Long (Eds.), *Testing structural equation models*: 136-162. Newbury Park, CA: Sage.
- Calori, R., & Sarnin, P. 1991. Corporate culture and economic performance: A French study. *Organization Studies*, 12, 1: 49-74.
- Camerer, C., & Vepsäläinen, A. 1988. The economic efficiency of corporate culture. *Strategic Management Journal*, 9: 115-126.
- Chatman, J.A., & Jehn, K.A. 1994. Assessing the relationship between industry characteristics and organizational culture: How different can you be? *Academy of Management Journal*, 37: 522-553.
- Davis, J.H., Schoorman F.D., & Donaldson L. 1997. Toward a stewardship theory of management. *Academy of Management Review*, 22: 20-47.
- Day, D.V., & Lord R.G. 1988. Executive leadership and organizational performance: Suggestions for a new theory and methodology. *Journal of Management*, 14, 3: 253-464.
- Deal, T.E., & Kennedy, A.A. 1982. *Corporate cultures, The rites and rituals of corporate life*. Reading, Mass.: Addison-Wesley Publishing Company.
- Denison, D.R. 1984. Bringing corporate culture to the bottom line. *Organizational Dynamics*, 13:

- Denison, D.R. 1990. Corporate culture and organizational effectiveness. New York: Wiley.
- Denison, D.R., Hooijberg, R., & Quinn, R.E. 1996. Paradox and performance: Toward a theory of behavioral complexity in managerial leadership. *Organization Science*, 6: 3-22.
- Denison, D.R., & Mishra A.K. 1995. Toward a theory of organizational culture and effectiveness. *Organization Science*, 6, 2: 204-223.
- Edwards, J.R. 1994. The study of congruence in organizational behavior research: Critique and a proposed alternative. *Organizational Behavior and Human Decision Processes*, 58: 51-100.
- Edwards, J.R. 1993. On the use of polynomial regression equations as an alternative to difference scores in organizational research. *Academy of Management Journal*: 1577-1613.
- Fiol, C.M. 1991. Managing culture as a competitive resource: An identity-based view of sustainable competitive advantage. *Journal of Management*, 17, 1: 191-211.
- Fombrun, Ch.J. 1996. Reputation: Realizing Value from the Corporate Image. Boston: Harvard Business School Press.
- Geyer, A.L.J., & Steyrer, J.M. 1998. Transformational leadership and objective performance in banks. *Applied Psychology: An International Review*, 47, 3: 397-420.
- Glauser, M.J. 1984. Upward information flow in organizations: Review and conceptual analysis. *Human Relations*, 37: 613-643.
- Glunk, U., & Wilderom, C.P.M. 1998. High performance on multiple domains: Operationalizing the stakeholder approach to evaluate organizations. Center for Economic Research, Discussion paper #9887, Tilburg University, the Netherlands, August, ISSN 0924-7815.
- Gordon, G.G. 1990. The relationship of corporate culture to industry sector and corporate performance. In R.H. Kilmann, M.J. Saxton & R. Serpa (Eds.), *Gaining control of the corporate culture*, Chapter 6: 103-125. San Francisco: Jossey-Bass Publishers.
- Gordon, G.G., & DiTomaso, N. 1992. Predicting corporate performance from organizational culture. *Journal of Management Studies*, 29, 6: 783-798.
- Hammond, J.H. 1973. Two sources of error in ecological correlations. *American Sociological Review*, 38: 764-777.
- Hampden-Turner, Ch. 1994. Corporate culture: From vicious to virtuous circles: How to generate organizational strength and lasting commercial advantage. London: Judy Piatkus Books.
- Hansen, G.S., & Wernerfelt, B. 1989. Determinants of firm performance: The relative importance of economic and organizational factors. *Strategic Management Journal*, 10: 399-411.
- Hart, S.L., & Quinn, R.E. 1993. Roles executives play: CEO's, behavioral complexity, and firm performance. *Human Relations*, 46: 543-574.

- Hartog, D.d., Muijen, J.v., Koopman, P.L. Transactional versus transformational leadership: An analysis of the MLQ in Dutch organizations. *Gedrag en Organisatie*, 7, 3: 155-166.
- Hater, J.J., & Bass, B.M. 1988. Superiors' evaluations and subordinates' perceptions of transformational and transactional leadership. *Journal of Applied Psychology*, 73: 695-702.
- Hawkins, P. 1997. Organizational culture: Sailing between evangelism and complexity. *Human Relations*, 50, 4: 417-440.
- Hays, S. 1994. Structure and agency and the sticky problem of culture. *Sociological Theory*, 12, 1: 57-72.
- Hofstede, G. 1984. *Culture's consequences: International differences in work-related values*. Beverly Hills: Sage Publications.
- Hofstede, G., Neuijen, B., Daval Ohayv, D., & Sanders, G. 1990. Measuring organizational cultures: A qualitative and quantitative study across twenty cases. *Administrative Science Quarterly*, 35: 286-316.
- Hofstede, G. 1991. *Cultures and organizations: The software of the mind*. New York: McGraw Hill.
- Hofstede, G., Harris Bond M., & Luk, C. 1993. Individual perceptions of organizational cultures: A methodological treatise on levels of analysis. *Organization Studies*, 14, 4: 483-503.
- House, R.J., Hanges, P., Ruiz-Quintanilla, A., Dorfman, P.W., Javidan, M. et al. 1998. Cultural influences on leadership: Project GLOBE. In W. Mobley (Ed.), *Advances in Global Leadership*, vol. 1, JAI Press, in press.
- Hunt, S.D. 1997. Resource-advantage theory: An evolutionary theory of competitive firm behavior? *Journal of Economic Issues*, 31, 1: 59-77.
- Johns, G. 1981. Difference score measures or organizational behavior variables: A critique. *Organizational Behavior and Human Performance*, 27: 443-463.
- Jöreskog, K.G., & Sörbom, D. 1993. *LISREL 8: Structural equation modeling with the SIMPLIS command language*. Hillsdale, NJ: Scientific Software.
- Keller, R.T. 1992. Transformational leadership and the performance of research and development project groups. *Journal of Management*, 18, 3: 489-501.
- Koene, A.S., Pennings J.M., & Schreuder, H. 1992. Leadership, organizational culture, and organizational outcomes. In K.E. Clark, M.B. Clark, & D.P. Campbell (Eds.), *Impact of leadership*: (215-223). Greensboro, NC: Center for Creative Leadership.
- Koene, A.S. 1996. *Organizational culture, leadership and performance in context: Trust and rationality in organizations*. Maastricht: Datawyse.
- Kluckhohn, C. 1951. The study of culture. In D. Lerner, & H.D. Laswell (Eds.), *The policy*

- sciences: 74-93. Palo Alto: Stanford University Press.
- Knights, D., & Willmott, H. 1997. The hype and hope of interdisciplinary management studies, *British Journal of Management*, 8, 1: 9-22.
- Lim, B. 1995. Examining the organizational culture and organizational performance link. *Leadership & Organization Development Journal*, 16, 5: 16-21.
- Lowe, K.B., Kroeck K.G., & Sivasubramaniam, N. 1996. Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature, *Leadership Quarterly*, 7, 3: 385-425.
- March, J.G. 1991. Exploration and exploitation in organizational learning, *Organization Science*, 2, 1: 71-87.
- Marcoulides, G.A., & Heck, R.H. 1993. Organizational culture and performance: proposing and testing a model. *Organization Science*, 4: 209-225.
- O'Reilly III, C.A, Chatman J., & Caldwell D.F. 1991. People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal*, 34: 487-516.
- Ouchi, W.G., & Johnson, A.B. 1978. Types of organizational control and their relationship to emotional well-being. *Administrative Science Quarterly*, 23: 292-317.
- Pawar, B.S., & Eastman K.K., 1997. The nature and implications of contextual influences on transformational leadership: A conceptual examination. *Academy of Management Review*, 22, 1: 80-109.
- Quinn, R.E. 1988. Beyond rational management: Mastering the paradoxes and competing demands of high performance. San Francisco, CA: Jossey-Bass Inc.
- Reynolds, P.D. 1986. Organizational culture as related to industry, position and performance: A preliminary report. *Journal of Management Studies*, 23: 333-345.
- Rousseau, D. 1985. Issues of level in organizational research: Multi-level and cross-level perspectives. *Research in Organizational Behavior*, 7: 1-37.
- Rousseau, D. 1990. Quantitative assessment of organizational culture: The case for multiple measures. In B. Schneider (Ed.), *Frontiers in industrial and organizational psychology*, Vol. 3: 153-192. San Francisco: Jossey-Bass.
- Rowlinson, M., & Procter, S. 1997. Efficiency and power: Organizational Economics meets Organization Theory. *British Journal of Management*, 8, Special issue: S31-S42.
- Saffold, G.S. 1988. Culture traits, strength and organizational performance: Moving beyond 'strong culture.' *Academy of Management Review*, 13: 546-558.
- Schein, E.H. 1985. *Organizational culture and leadership*. San Francisco: Jossey-Bass.

- Schein, E.H. 1996. Culture: The missing concept in Organization Studies. *Administrative Science Quarterly*, 41: 229-240.
- Schmit, M.J., & Allscheid, S.P. 1995. Employee attitudes and customer satisfaction: Making theoretical and empirical connections. *Personnel Psychology*, 48: 521-536.
- Shamir, B. 1997. Leadership in boundaryless organizations: Disposable or Indispensible? Paper, Tilburg Leadership Symposium, WORC, Tilburg University, the Netherlands.
- Shenav, Y., Shrum W., & Alon S. 1994. Goodness concepts in the study of organizations: A longitudinal survey of four leading journals. *Organization Studies*, 15: 753-776.
- Siehl, C., & Martin J. 1990. Organizational culture: A key to financial performance? In B. Schneider (Ed.), *Organizational climate and culture*. Chapter 7: 241-281. San Francisco: Jossey-Bass Publishers.
- Spreitzer, G.M. 1995. Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, 38: 1442-1465.
- Tett, R.P., & Meyer J.P. 1993. Job satisfaction, organizational commitment, turnover intention, and turnover: Path analyses based on meta-analytic findings. *Personnel Psychology*, 46: 259-293.
- Trice, H.M., & Beyer J.M. 1993. *The cultures of work organizations*, Englewood Cliffs: Prentice Hall.
- Walter, G.A. 1985. Culture collisions in mergers and acquisitions. In P.J. Frost, L.F. Moore, M. Reis Louis, C.C. Lundberg, & J. Martin, *Organizational Culture*: 301-314, London: Sage Publications.
- Weeks, J. 1994. Dimensions of strength: Strong culture revisited. Unpublished paper presented at the Academy of Management Meetings, Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA.
- Wilderom, C.P.M., & Press E. 1994. Assessing nonprofit organizations' effectiveness. In: *Proceedings of the International Federation of Scholarly Associations of Management* (38-39). The best in management worldwide: Linking management scholarship.
- Williamson, O.E. 1996. *The mechanisms of governance*. Oxford: Oxford University Press.
- Willmott, R. 1997. Structure, culture and agency: Rejecting the current orthodoxy of organization theory. *Journal for the Theory of Social Behaviour*, 27: 93-123.
- Young, R.G., & Bradford S. 1977. *Joint ventures planning and action*. New York: Arthur D. Little.
- Yukl, G. 1997. An evaluative essay on current conceptions of effective leadership. Paper, Tilburg Leadership Symposium, WORC, Tilburg University, the Netherlands.

Author, (year of publication)	Sample	Data collection	Def. of OC	OC dimensions	P measure	Key results
Denison (1984)	34 large US-firms in 25 industries	survey to employees	perceptions of org. practices	1. org. of work 2. participation in dec. making	standardized Standard & Poor's ROI & ROS over a 5 years period	- org. of work predicts P - particip. dec. making predicts long-term P - high OC strenght predicts high short-term P and low long-term P
Rousseau (1990)	32 large units of a US nationwide voluntary service organization	survey to employees	normative beliefs	1. task vs. people 2. security vs. satisfaction	amount of dollar annually raised adjusted for community wealth	3 security-oriented norms predict low P
Calori & Sarnin (1991)	5 large French companies in various industries	survey to employees	perceived work-related values and management practices	12. value dimensions and 17. mgt. practice dimensions	standardized ROI, ROS and growth	some individual OC items predict ROI and ROS and some, mostly other OC items predict growth
Gordon & DiTomaso (1992)	11 large US insurance companies	survey to managers	shared and stable beliefs and values	1. clarity of strategy/shared goals 2. systematic decision-making 3. integration/communication 4. innovation/risk-taking 5. accountability 6. action orientation 7. fairness of rewards 8. development and promotion from within	growth in assets and in premiums	OC strength and adaptability predicts short-term P
Kotter & Heskett (1992)	207 US firms from 22 different industries	survey to top executives + survey to financial analysts + case studies	shared values and behavioural patterns	1. strength 2. strategy-culture fit 3. adaptability	average yearly increase in net income, stock price and ROI	- OC strength doesn't predict P - adaptive OC predicts good long-term P
Marcoulides & Heck (1993)	26 greatly varying US firms	survey to employees randomly chosen from strata within the firms + interviews	a sociocultural system of perceived functioning, an org. value system and collective beliefs of employees	1. org. structure/purpose 2. org. value 3. org. climate 4. task org. 5. worker attitudes/goals	volume, share, profit and return	various aspects of OC predict P
Denison & Mishra (1995)	5 US case studies + 764 US companies	survey to top executives + documents + interviews	core values	1. involvement 2. consistency 3. adaptability 4. mission	perceived performance, ROA and sales growth	- stability traits as mission and consistency predict profitability - flexibility traits as involvement and adaptability predict growth
Petty, Beadless II, Lowery, Chapman & Connell (1995)	12 units of one US firm in the electric utility industry	survey to employees and the same survey one year later	value system	1. teamwork 2. trust and credibility 3. organizational functioning 4. performance/common goals	summary of 5 "objective" measures of organizational performance	teamwork predicts P
Koene (1996)	50 company-owned supermarket stores of a large retail chain in the Netherlands	survey to employees + interviews	value system	1. proces vs. results orientation 2. employee vs. work orientation 3. professional vs. parochial orientation 4. open vs. closed culture 5. tight vs. loose culture 6. normative vs. pragmatic orientation	1. net results 2. controllable costs 3. wage costs 4. productivity difference 5. sick leave	employee orientation and openness influence P both directly and indirectly through their impact on the climate variables general communication and task communication

Table 1: Empirical Studies on the Organization Culture -- Performance Link

				Our 5 OC Dimensions				
Hoistede et al (1990)	O'Reilly et al (1991)	Gordon & DiTomaso (1992)	Denison & Mishra (1995)	human, resource orientation	intergroup orientation	improvement orientation	external orientation	empowerment
process oriented vs. results oriented	results oriented	action oriented		+		+	+	
employee oriented vs. job oriented	people oriented			++				++
parochial vs. professional	team oriented	fairness of rewards	involvement	+	+	+		
open system vs. closed system	aggressive vs. easy going	- integration/communication - development and promotion from within		+	++		+	
loose control vs. tight control	- detail oriented - stability	- accountability - systematic decision-making	consistency					++
normative vs. pragmatic	innovation oriented	innovation/risk taking	adaptability			++	++	
		clarity of strategy/shared goals	mission			+	+	

+ = some overlap

+ - = much overlap

Table 2: Comparison of Our 5 OC Dimension with Four Other Sets of OC Dimensions. Overlap Analysis Done on the Item-Level

TABLE 3

Factor Analyses of Leadership Items on Individual (N = 1462) and Aggregated Level (N = 58)

Item	Factor	Factor
	on ind. level	on agg. level
1. Has the image of ability in word and deed	<u>.82</u>	<u>.94</u>
2. Shows an extraordinary ability in everything they undertake	<u>.79</u>	<u>.93</u>
3. Makes a powerful impression	<u>.78</u>	<u>.87</u>
4. Shows itself to be capable both socially and in business	<u>.77</u>	<u>.87</u>
5. Is concerned with the organization's personnel and with competing organizations	<u>.77</u>	<u>.91</u>
6. Instills perfect trust	<u>.76</u>	<u>.87</u>
7. Gives employees the feeling that management can handle any obstacle	<u>.76</u>	<u>.92</u>
8. Is active for the benefit of both personnel and organizational goals	<u>.75</u>	<u>.88</u>
9. Is both human oriented and result oriented	<u>.74</u>	<u>.86</u>
10. Creates a common feeling of working on an important mission	.72	.87
11. Makes employees aware of important common values, aspirations, and ideals	.69	.81
12. Promulgates a clear vision on future options	.63	.83
13. Speaks optimistically about the future	.43	.57
14. Shows itself to be strongly convinced of their own opinions and values	.24	.46
Eigenvalue	7.0	9.9

ind. = individual, agg. = aggregated

TABLE 4

Results of Factor Analyses on Perceived-Practices Items on Individual (N = 1452) and Aggregated Level (N = 58)

Item	Factors, Individual Level					Factors, Aggregated Level				
	1	2	3	4	5	1	2	3	4	5
Hr Performance appraisals are taken seriously	<u>.72</u>	.05	.12	.11	.05	.10	.03	.83	-.18	.06
Hr Careful selection of new personnel	<u>.63</u>	.12	.02	.17	.06	.10	.17	.77	.15	-.03
Hr Employees obtain useful information about their own functioning	<u>.57</u>	.16	.13	.20	.31	.25	.05	.63	.17	.41
Hr Recognition of good performance by employees	<u>.54</u>	.14	.37	.18	-.01	.35	.44	.54	.02	.19
Hr The direction this organization is headed inspires employees to better achievements	.52	.41	.25	.16	.20	.57	.42	.56	.10	.15
Hr Stimulation of employees to high involvement	<u>.52</u>	.38	.14	.08	.23	.53	.26	.57	.16	.18
Hr Thorough training of new employees	<u>.46</u>	.25	.06	.26	.14	.52	.13	.24	.20	.31
Im Stimulation of creativity in employees	.45	.40	.35	.09	.24	.55	.50	.37	.11	.26
Im Talking about mistakes in order to learn from them	.41	.21	.10	.35	.22	.27	.04	.56	.36	.27
Ex Active canvassing of new customers	.01	<u>.69</u>	.03	.12	.13	.83	-.02	.07	.08	.12
Ex Working to improve the local market position	.25	<u>.66</u>	.06	.11	.04	.78	.12	.37	-.05	-.02
Ex Quick reaction to developments in the market	.25	<u>.64</u>	.12	.20	.06	.80	.18	.25	.12	-.02
Ex Having an edge over local competitors	.10	<u>.61</u>	.18	.18	.01	.62	.31	.07	.35	-.22
Ex Investigation of the wishes and needs of customers	.18	<u>.54</u>	.09	.16	.28	.78	.11	.07	.20	.23

Ex	Thorough training of employees in systematically gathering information on what customers want to see improved	.20	<u>.53</u>	.01	.20	.32	.70	.03	.24	.19	.38
Im	Quick implementation of sound proposals for change	.37	.45	.20	.23	.08	.40	.34	.51	.33	.09
Ex	Active promotion of the organization by its employees	.08	<u>.37</u>	.27	.20	.30	.39	.47	.23	.20	.37
Em	Room for non-managerial employees to make their own decisions	.07	.07	<u>.75</u>	.20	.08	.10	.89	.13	.07	.15
Em	Freedom for employees to depart from rules	.07	.07	<u>.75</u>	.01	-.01	.05	.86	.07	.01	.08
Em	Freedom for employees to implement decisions according to their own views	.04	.12	<u>.71</u>	.12	.24	.17	.83	-.09	.20	.11
Em	Freedom for employees to plan their own work	.13	.07	<u>.59</u>	.08	.20	-.10	.72	.11	.16	.26
Em	Assignment of interesting tasks to employees	.37	.19	<u>.52</u>	.11	.09	.36	.60	.24	.10	.36
Em	Employees influence important decisions concerning work	.42	.13	<u>.52</u>	.23	.15	.34	.72	.38	.04	.03
Em	The opportunity for employees to bring forward ideas before decisions are made	.49	.16	<u>.50</u>	.12	.16	.30	.69	.43	-.02	.23
Ig	Useful cooperation between departments	.18	.18	.17	<u>.75</u>	.10	.12	.21	.21	.82	.18
Ig	Exchange of useful information between departments	.08	.16	.11	<u>.73</u>	.13	.16	-.07	.13	.82	.06
Ig	Departments support one another in the resolution of problems	.14	.15	.14	<u>.71</u>	.25	.18	.20	.01	.77	.35
Ig	Mutual communication between heads of departments	.28	.18	.11	<u>.55</u>	.05	.09	.36	.54	.51	-.14
Ig	Timely resolution of conflicts between departments	.42	.12	.11	<u>.53</u>	.02	.32	.01	.56	.48	.21
Ig	Useful meetings between heads of departments	.42	.21	.07	<u>.51</u>	.01	.17	.20	.59	.45	-.21
Ex	Exchange of information on important activities of competitors	.06	.42	.13	.47	.18	.57	.15	-.07	.53	.26
Im	Employees closely monitor their own way of working	.13	.11	.09	.12	<u>.71</u>	.17	.23	.06	.10	.77
Im	Employees' search for possibilities to improve the organization	.06	.21	.21	.14	<u>.69</u>	.25	.38	.04	.21	.67
Im	Initiatives taken by employees to improve the way in which the work is done	.18	.12	.20	.14	<u>.66</u>	.12	.40	.13	.19	.63

Im	Efforts contributing to exceptional performance of the organization	.24	.48	.10	.06	<u>.50</u>	.63	.30	.36	.12	.28
	Eigen value	11.2	2.2	1.8	1.5	1.2	15.6	3.5	2.3	2.3	1.6

Hr = Human Resource orientation

Im = Improvement orientation

Ex = External orientation

Em = Empowerment

Ig = Intergroup orientation

Note: If the factor loading on the individual level is underlined, the item was included in one of the organizational practices scales.

TABLE 5

Correlations Between Actual-Practices Scales and Global Measures (N = 58)

Actual practices scales	Global measures				
	1	2	3	4	5
1. Empowerment	.89**	.22	.39**	.43**	.60**
2. Intergroup orientation	.27*	.75**	.35**	.41**	.45**
3. Improvement orientation	.59**	.48**	.60**	.53**	.75**
4. External orientation	.35**	.46**	.50**	.64**	.61**
5. Human resource orientation	.35**	.28*	.70**	.39**	.80**

* $p < .05$ ** $p < .01$

TABLE 6
Regression of Perceived and Preferred Practices Scores on
Perceived Organizational Performance (N = 58)

Culture dimension	β Perceived	β Preferred	R
Empowerment	.52**	-.26	.51**
Intergroup orientation	.62**	-.28	.52**
Improvement orientation	.83**	-.69**	.72**
External orientation	.71**	-.61**	.70**
Human resource orientation	.48**	-.68*	.56**

* $p < .05$

** $p < .01$

TABLE 7

Correlations Between Culture-Gap Dimensions and Culture-Strength Measures

	Standard deviations on perceived practices					Strong character
	1	2	3	4	5	
1. Empowerment gap	.24	.28*	.32**	.34**	.30*	-.44**
2. Intergroup-orientation gap	.29*	.44**	.42**	.41**	.56**	-.33*
3. Improvement-orientation gap	.04	.38**	.47**	.40**	.44**	-.44**
4. External-orientation gap	.09	.29**	.34**	.34**	.29*	-.56**
5. Human-resource-orientation gap	.20	.33*	.27**	.40**	.43**	-.38**
6. Org. culture gap	.28*	.35**	.37**	.39**	.43**	-.60**

* $p < .05$ ** $p < .01$

TABLE 8

Correlations among Main Variables (N = 58)

Variables	Mean	s.d.	1	2	3	4	5	6	7
1. Balanced transformational leadership style	3.01	.36							
2. Empowerment gap	1.06	.30	-.52**						
3. Intergroup-orientation gap	1.25	.25	-.52**	.52**					
4. Improvement-orientation gap	1.26	.26	-.66**	.75**	.65**				
5. External-orientation gap	1.28	.28	-.57**	.60**	.59**	.84**			
6. Human-resource-orientation gap	1.35	.35	-.78**	.59**	.61**	.80**	.69**		
7. Perceived organizational performance	2.71	.28	.57**	-.50**	-.50**	-.72**	-.70**	-.56**	
8. Objective organizational performance	1.20	.09	.25*	.05	.01	.03	-.02	-.07	.31*

* $p < .05$ ** $p < .01$

TABLE 9

Correlations Corrected for Common Method Variance (N = 58)

	1	2	3	4	5	6	7
1. Balanced transformational leadership style	(.60)						
2. Empowerment gap	-.28	(.80)					
3. Intergroup-orientation gap	-.23	.43	(.62)				
4. Improvement-orientation gap	-.37	.61	.47	(.59)			
5. External-orientation gap	-.33	.49	.40	.52	(.58)		
6. Human-resource-orientation gap	-.47	.45	.37	.52	.51	(.62)	
7. Perceived organizational performance	.29	-.34	-.30	-.45	-.50	-.30	(.63)

Note. Correlations between parentheses represent intergroup reliabilities.

TABLE 10

Goodness of Fit Statistics^a of Tested Models

Model	χ^2	df	p	RSMEA	p (<.05)	ECVI	AGFI	NFI
Measurement model	1.30	5	.93	<.001	.95	.37	.97	.99
Structural model A	16.43	19	.63	<.001	.77	.87	.88	.89
Structural model B	16.94	18	.53	<.001	.68	.91	.87	.88
Structural model C	17.08	19	.58	<.001	.73	.88	.88	.88
Structural model D	8.52	18	.97	<.001	.99	.77	.93	.94

^a RMSEA = root-mean-square error of approximation, p (<.05) = probability that RSMEA is lower than .05, ECVI = expected cross-validation index, AGFI = adjusted goodness-of-fit index, NFI = normed fit index.

TABLE 11
Correlations Among Latent Variables

	1	2	3
1. Balanced transformational leadership style			
2. Org. culture gap	-.50		
3. Perceived organizational performance	.33	-.66	
4. Objective organizational performance	.25	.00	.36

Figure 1: Our Hypothetical LCP-Model

Figure 2: Final Results of Tests of the LCP-model

Figure 3: Interpretation of the Suppressor Effect of Balanced Transformational Leadership Style and Perceived Organizational Performance on the Relationship between Organizational Culture Gap and Objective Organizational Performance

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9842	J. Boone	Competitive Pressure, Selection and Investments in Development and Fundamental Research
9843	H.L.F. de Groot	Macroeconomic Consequences of Outsourcing. An Analysis of Growth, Welfare, and Product Variety
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