

Leadership style, organizational culture and performance: empirical evidence from UK companies

Emmanuel Ogbonna and Lloyd C. Harris

Abstract The topics of leadership and organizational culture have attracted considerable interest from both academics and practitioners. Much of the interest in the two areas is based on explicit and implicit claims that both leadership and culture are linked to organizational performance. However, while the links between leadership and performance and between culture and performance have been examined independently, few studies have investigated the association between the three concepts. This paper examines the nature of this relationship and presents empirical evidence which suggests that the relationship between leadership style and performance is mediated by the form of organizational culture that is present. The paper concludes with a number of implications for theory and practice.

Keywords Organizational culture; leadership style; performance; United Kingdom.

Introduction

An examination of the literature in the fields of organizational culture and leadership finds that the two areas have been independently linked to organizational performance. For example, researchers have examined the links between leadership styles and performance (see Bycio *et al.*, 1995; Howell and Avolio, 1993), and also between organizational culture and performance (see Deal and Kennedy, 1982; Denison, 1990; Ouchi, 1981; Pascale and Athos, 1981; Peters and Waterman, 1982; Kotter and Heskett, 1992). Furthermore, numerous aspects of the organizational culture literature allude to the role of leaders in ‘creating’ and ‘maintaining’ particular types of culture (for example, Schein, 1992; Siehl, 1985). Equally, the literature on leadership suggests that the ability to understand and work within a culture is a prerequisite to leadership effectiveness (see Hennessey, 1998).

However, despite the implicit and explicit linking of leadership and culture in many parts of organization theory, little critical research attention has been devoted to understanding the links between the two concepts and the impact that such an association might have on organizational performance. The absence of critical literature exploring the performance implications of the links between organizational culture and leadership is surprising given the numerous references to the importance of the two concepts in the functioning of organizations (see, for example, Fiedler, 1996; Schein, 1992). The aim of this paper is to provide empirical evidence of the links between different types of organizational culture, a range of leadership styles and organizational

Dr Emmanuel Ogbonna, Cardiff Business School, University of Wales, Colum Drive, Cardiff, CF1 3EU, UK (tel: +44 29 2087 5212; fax: +44 29 2087 4419; e-mail: Ogbonna@Cardiff.ac.uk). Dr Lloyd C. Harris, Cardiff Business School.

performance. This is achieved through the presentation of the results of a cross-sectional survey of leadership style, organizational culture, and performance across UK companies.

The paper begins with a brief review of the literature on leadership, organizational culture, and performance. This is followed by a discussion of the methodology adopted for the study and the presentation of the findings and analysis of responses to a mailed questionnaire exploring the links between the two concepts and performance. The evidence demonstrates that the relationship between leadership style and performance is mediated by the nature of organizational culture. In the final part of the paper, the conclusions and implications of the study are highlighted.

Literature review

The literature review presented in this paper is examined in three stages. First, studies of the links between leadership style and performance are discussed. Second, research into the organizational culture–performance link is examined and, finally, studies combining the analysis of both organizational culture and leadership style are presented.

Leadership and performance

An overview of the history of research into the topic of leadership finds that the literature on leadership and performance can be broadly categorized into a number of important phases. Early studies on leadership (frequently categorized as ‘trait’ studies on leadership) concentrated on identifying the personality traits which characterized successful leaders (Argyris, 1955; Mahoney *et al.*, 1960). Trait theories assume that successful leaders are ‘born’ and that they have certain innate qualities which distinguish them from non-leaders (see Stodgill, 1948). However, the difficulty in categorizing and validating these characteristics led to widespread criticism of this trait approach, signalling the emergence of ‘style’ and ‘behavioural’ approaches to leadership (Stodgill, 1948). Style and behavioural theorists shifted the emphasis away from the characteristics of the leader to the behaviour and style the leader adopted (Hemphill and Coons, 1957; Likert, 1961). The principal conclusion of these studies appears to be that leaders who adopt democratic or participative styles are more successful (see, for example, Bowers and Seashore, 1966). In this sense, these early studies are focused on identifying the ‘one best way of leading’.

Similarly to trait theories, the major weakness of style and behavioural theories is that they ignore the important role which situational factors play in determining the effectiveness of individual leaders (Mullins, 1999). It is this limitation that gives rise to the ‘situational’ and ‘contingency’ theories of leadership (for example, Fiedler, 1967; House, 1971; Vroom and Yetton, 1974) which shift the emphasis away from ‘the one best way to lead’ to context-sensitive leadership. Although each study emphasizes the importance of different factors, the general tenet of the situational and contingency perspectives is that leadership effectiveness is dependent on the leader’s diagnosis and understanding of situational factors, followed by the adoption of the appropriate style to deal with each circumstance.

However, in an apparent return to the ‘one best way of leadership’, recent studies on leadership have contrasted ‘transactional’ leadership with ‘transformational’ leadership. Transactional leaders are said to be ‘instrumental’ and frequently focus on exchange

relationship with their subordinates (Bass and Avolio, 1993). In contrast, transformational leaders are argued to be visionary and enthusiastic, with an inherent ability to motivate subordinates (Bycio *et al.*, 1995; Howell and Avolio, 1993).

Although the brief summary above indicates that research into leadership has gone through periods of scepticism, recent interest has focused on the importance of the leadership role to the success of organizations. Fiedler (1996), one of the most respected researchers on leadership, has provided a recent treatise on the importance of leadership by arguing that the effectiveness of a leader is a major determinant of the success or failure of a group, organization, or even an entire country. Indeed, it has been argued that one way in which organizations have sought to cope with the increasing volatility and turbulence of the external environment is by training and developing leaders and equipping them with the skills to cope (Darcy and Kleiner, 1991; Hennessey, 1998; Saari *et al.*, 1988). These claims are based on the assumption of a direct link between leadership and organizational performance. This assumption requires critical review.

Widely celebrated cases of a direct leadership–performance link may be found in numerous anecdotal accounts of improvements of company performance attributed to changes in leadership (see, for example, Nicholls, 1988; Quick, 1992; Simms, 1997). However, empirical studies into the links between leadership and performance have been lacking. One notable exception is the detailed study of the impact of leadership on performance in the somewhat surprising context of Icelandic fishing ships. Thorlindsson (1987) suggests that variations in the performance of different fishing ships, under identical conditions, can be accounted for by the leadership skills of captains. Over a three-year period, Thorlindsson (1987) revealed that the leadership qualities of the ship captains accounted for 35 to 49 per cent of variation in the catch of different crews.

Other studies which examine the links between leadership and performance coincide with the re-emergence of the ‘one best way to lead’ debate. Of particular relevance is the resurgence of interest into charismatic leadership, which is frequently referred to as transformational leadership (Bass and Avolio, 1993). A number of researchers theorize that transformational leadership is linked to organizational performance (see, for example, Bycio *et al.*, 1995; Howell and Avolio, 1993). Conceptually, it is argued that the visionary and inspirational skills of transformational leaders motivate followers to deliver superior performance (Nicholls, 1988; Quick, 1992).

In summary, much of the above evidence presented as supporting the claim of a leadership–performance link is anecdotal and frequently over-concentrates on the ‘transformational’ role of leaders in corporate successes (for example, Quick, 1992; Simms, 1997; Taffinder, 1995). It would appear that few studies have responded to the observation of Porter and Mckibbin (1988) that much of the research reported as supporting this claim is either inconclusive or empirically suspect. The limited or inconclusive character of research findings in this area suggests the need to investigate further the nature of the relationship between leadership and performance.

Organizational culture and performance

While the evidence of a leadership–performance link is largely anecdotal, considerably more research has empirically examined the organizational culture–performance relationship. Indeed, an examination of the literature is likely to conclude that organizational culture is one of the most popular concepts in the fields of management and organizational theory. One reflection of the popularity of the culture concept is the increasing number of theoretical perspectives (see Martin, 1992) and organizational disciplines which utilize the concept (for example, Harris and Ogbonna, 1999).

It is arguable that the academic acceptance of culture, without the usual squabbles and scepticism associated with new concepts, is a major indication of the perceived importance of the concept (Alvesson, 1990). However, this is not to infer that there is consensus on the meaning and relevance of the concept. On the contrary, there is widespread disagreement on the definition and scope of the organizational culture concept (see Ogbonna and Harris, 1998a). Consequently, it is pertinent to note three main issues. First, many researchers note that treating culture as a unitary concept reduces its value as an analytic tool (for example, Martin, 1992; Ogbonna and Harris, 1998a; Pettigrew, 1979). Second, culture cannot be equated to power and politics or climate (Denison, 1996; Riley, 1983; Schein, 1986); and, third, there is disagreement on whether organizational culture can be easily changed (Legge, 1994; Ogbonna, 1993).

One of the major reasons for the widespread popularity of and interest in organizational culture stems from the argument (or assumption) that certain organizational cultures lead to superior organizational financial performance. Many academics and practitioners argue that the performance of an organization is dependent on the degree to which the values of the culture are widely shared, that is, are 'strong' (see Deal and Kennedy, 1982; Denison, 1990; Kotter and Heskett, 1992; Ouchi, 1981; Pascale and Athos, 1981; Peters and Waterman, 1982).

The claim that organizational culture is linked to performance is founded on the perceived role that culture can play in generating competitive advantage (see Scholz, 1987). Krefling and Frost (1985) suggest that the way in which organizational culture may create competitive advantage is by defining the boundaries of the organization in a manner which facilitates individual interaction and/or by limiting the scope of information processing to appropriate levels. Similarly, it is argued that widely shared and strongly held values enable management to predict employee reactions to certain strategic options thereby minimizing the scope for undesired consequences (Ogbonna, 1993). Theorists also argue that sustainable competitive advantage arises from the creation of organizational competencies which are both superior and imperfectly imitable by competitors (Reed and DeFillippi, 1990). To this end, it is argued that the 'uniqueness quality' of organizational culture makes it a potentially powerful source of generating advantage over competitors. Indeed, many commentators have advised organizations and researchers to exploit the multiple advantages which could be offered by culture rather than focusing on the more tangible side of the organization (for example, Johnson, 1992; Prahalad and Bettis, 1986).

Early researchers who link culture to organizational performance are unequivocal in their claims. An illustration of this is derived from the works of the so-called 'excellence writers' who argue that successful organizations are distinguished by their ability to promote cultural values which are consistent with their chosen strategies (for example, Deal and Kennedy, 1982; Ouchi, 1981; Pascale and Athos, 1981; Peters and Waterman, 1982). Although this view met with initial popularity, the principal tenets of the argument have been subjected to extensive criticism (for example, Legge, 1994; Ogbonna, 1993; Willmott, 1993).

By the 1990s, researchers assessing the links between culture and performance were more cautious. For example, Gordon and DiTomaso (1992) and Denison (1990) both propose that there is a link between certain organizational culture characteristics and performance but each add a number of provisos. In particular, they note that culture will remain linked with superior performance only if the culture is able to adapt to changes in environmental conditions. Furthermore, the culture must not only be strong (widely shared), but it must also have unique qualities which cannot be imitated. However, more recently, it has been suggested that the relationship between culture and

performance is tenuous (Hopfl *et al.*, 1992; Lewis, 1994; Lim, 1995; Ray, 1986; Willmott, 1993). Indeed, the growing popularity of the resource-based view of competitive advantage suggests that the degree to which a culture can be theorized to determine a *sustainable* advantage is dependent upon the value, rarity, imitability, and sustainability of the culture concerned (Barney, 1986, 1991).

Overall, the literature on organizational culture is rich and diverse. Much of the richness is founded on the claim by many researchers that culture is linked to organizational performance. While, some theorists have questioned the universality of a culture–performance link, sufficient evidence exists to suggest that organizational culture is associated with organizational performance.

Leadership and organizational culture

The earlier review of the literature on the relationship between leadership and performance and between culture and performance finds that many commentators note that the performance of an organization is dependent on the conscious alignment of employee values with the espoused values of company strategy. This clearly indicates that organizational culture and leadership are linked. The following is a review of the literature on this issue.

One way of uncovering the relationship between culture and leadership is to examine how culture has been conceptualized in organizational theory. Smircich (1983) identifies two approaches to the study of the cultural phenomenon in organizations: culture as an organizational variable, then culture seen as *something* which can be manipulated. Thus the nature, direction, and impact of such manipulation are dependent on the skills and abilities of the leader. The majority of the literature which extols the virtues of transformational leadership demonstrates widespread support for this view (for example, Nicholls, 1988; Quick, 1992; Simms, 1997). In contrast, if culture is seen as an integral part of the organization, then the thinking, feeling, and responses of leaders are moulded by the culture (Bass and Avolio, 1993; Schein, 1992).

Schein (1992) observes that organizational culture and leadership are intertwined. He illustrates this inter-connection by looking at the relationship between leadership and culture in the context of the organizational life cycle. Thus, during the process of organizational formation, the founder of a company creates an organization which reflects their values and beliefs. In this sense, the founder creates and shapes the cultural traits of their organization. However, as the organization develops and time passes, the created culture of the organization exerts an influence on the leader and shapes the actions and style of the leader. Through this dynamic ongoing process, the leader creates and is in turn shaped by the organizational culture. In summarizing the consensus of opinion on the links between organizational culture and leadership, Bass and Avolio (1993) mirror the argument of Schein (1992) by suggesting that the relationship between the two concepts represents an ongoing interplay in which the leader shapes the culture and is in turn shaped by the resulting culture.

Bass (1985) demonstrates the relationship between leadership and culture by examining the impact of different styles of leadership on culture. He argues that transactional leaders tend to operate within the confines and limits of the existing culture, while transformational leaders frequently work towards changing the organizational culture in line with their vision. Similarly, Brown (1992) observes that good leaders need to develop the skills that enable them to alter aspects of their culture in order to improve their organizational performance.

While there is no shortage of claims that leadership and culture are linked in the literature (Bass and Avolio, 1993; Nicholls, 1988; Quick, 1992; Schein, 1992; Simms, 1997), there have been very few empirical examinations of the nature and performance implications of this link. One exception is a recent study of organizational change in the United States federal civil service. Hennessey concludes that leadership played a major role in nurturing the appropriate organizational culture which helped to improve the implementation of specific government reforms. Hennessey further argues that ‘the most effective leaders foster, support, and sustain organizational cultures that facilitate the type of management reform envisioned by “reinventing government” and the attendant increases in effectiveness and efficiency’ (1998: 523).

The above review finds that the link between leadership and organizational performance, the relationship between organizational culture and performance, and the interplay between leadership and culture have each been studied separately. Interestingly, few empirical studies have combined the simultaneous examination of organizational culture, leadership style, and performance. While some writers suggest that (1) the style of a leader affects performance, (2) certain types of culture are linked to superior performance, and (3) culture and leadership are related, the precise nature and form of interaction between these three concepts is not fully understood. Clearly further research is necessary to identify, explore, and elucidate the character and pattern of association between organizational culture, leadership style, and performance. However, some literature-based conclusions can be drawn. First, the purported relationship between leadership style and performance is based largely on anecdotal evidence (Nicholls, 1988; Quick, 1992; Simms, 1997), while the links between organizational culture and performance are supported by empirical studies (for example, Gordon and DiTomaso, 1992; Denison, 1990). On the basis of studies which suggest that leadership style shapes the nature of organizational culture (see, for instance, Bass and Avolio, 1993; Schein, 1992), it is possible to propose that:

P1 The link between leadership style and organizational performance is mediated by the nature and form of organizational culture.

In order to guide later discussions this proposition is presented in diagram form in Figure 1.



Figure 1 *The links between leadership style, organizational culture and organizational performance*

Research design and methodology

To evaluate the efficacy of the model presented in Figure 1, a descriptive quantitative research design is clearly appropriate. Consequently, a multi-industry sample of one thousand units was drawn from the FAME database of registered United Kingdom firms. Suitable medium- and large-sized firms were selected via the utilization of a systematic random selection procedure with appropriate units selected on a variety of criteria, including company turnover, date of registration, and number of employees.

In order to limit potential measurement error, responses were required from key informants knowledgeable in a variety of tactical and strategic activities (Bowman and Ambrosini, 1997; Snow and Hrebiniak, 1980; Hambrick, 1981; Nayyar, 1992). While some researchers argue that the use of a single respondent may be unreliable (see, for example, Bowman and Ambrosini, 1997), other authors suggest that this issue may not be a problem in certain contexts (see Zahra and Covin, 1993). Similarly, other researchers have noted the potential negative effect of multiple respondents on usable response rates (see, for example, Malhotra, 1993), the difficulties of survey administration (Slater, 1995), and the problems arising from poor inter-rater reliability (see, for example, Dholakia *et al.*, 1993; Gundlach and Cadotte, 1994). Consequently, it was decided to adopt a single-respondent approach and a senior executive was selected as a key informant in each sampling unit.

The efficient and effective administration and implementation of a survey significantly influence the overall success of data generation and the achievement of satisfactory responses (see, for example, Dillman, 1978; Churchill, 1991; Faria and Dickinson, 1992). Indeed, a plethora of prescriptive articles and books offer helpful suggestions on effective survey design and execution, including advice on pre-notification protocol, response incentives, and follow-up mailings (see, for instance, Diamantopoulos *et al.*, 1991; Duncan, 1979; Murphy *et al.*, 1990; Paxson, 1992). In an effort to improve content validity and response rates the survey was designed, formulated, and implemented in a manner which closely followed the recommendations of a variety of authors. In particular, the recommendations on questionnaire design and layout, survey piloting, and pre-notification and post-survey follow-up reminders by Dillman (1978), Churchill (1991), and Conant *et al.*, (1990) were adopted.

Clearly, a crucial aspect of survey methodology is the development of a questionnaire which is appropriate for its purpose (Sheatsley, 1983; Churchill, 1991). Consequently, a research instrument was developed which follows the framework recommended by Churchill (1991), which in turn is based on the earlier work of Kornhauser and Sheatsley (1976). The nine-step iterative series of guidelines developed by Churchill (1991) provides a rigorous systematic procedure for the formulation of a questionnaire which greatly improves content validity. A review of existing theories, operationalizations, and measures suggested that the measurement of organizational culture, leadership style, and organizational performance could be reliably achieved via the adoption of measures adapted from extant literature.

A variety of organizational culture theorists have presented a number of measures of organizational culture (see, for example, Cooke and Rousseau, 1988; Xenikou and Furnham, 1996). A review of these measures indicates that each of the developed measures of culture reflect the creators' view and definition of organizational culture. Thus, where a theorist defines organizational culture as a series of values, the measure of culture focuses on values, whereas definitions of culture which focus on artefacts lead to measures which focus on organizational creations (see Harris and Ogbonna, 1999). However, pre-survey discussions with executives revealed that the Deshpande

et al. (1993) view of culture was consistent with the opinions of practitioners while concordant with contemporary theory. The measure of organizational culture adapted from that of Deshpande *et al.* (1993), which in turn was largely based on the earlier work of Campbell and Freeman (1991) and Quinn (1988), is viewed as theoretically superior to other measures on the basis that the battery concentrates on the measurement of two key continua of organizational culture: organic-mechanistic and internal maintenance-external positioning. Furthermore, the measure is succinct, easy to administer, and respondent friendly. Consequently, for practical and for conceptual reasons the Deshpande *et al.* (1993) battery was adopted and used in the survey instrument. However, the labels of culture used by Deshpande *et al.* (1993) were altered to the labels competitive, innovative, bureaucratic, and community culture since these were considered more accurate by practitioners and theoretically justifiable by the researchers. The exact wording of questions and items gauging organizational culture is presented in Table 1.

The measure of perceived leadership style was also derived from extant literature. A review of literature pertaining to the measurement of leadership behaviour, styles, and characteristics suggested that a large number of measures might possibly be appropriate (for example, Fiedler, 1967; Bowers and Seashore, 1966). However, the measure of perceived leadership style of House (1971a,b) and House and Dessler (1974), which in turn was principally based on the earlier work of Fleishman (1957) and Stogdill (1963), was presented as reliable and valid by a number of respected authors and texts (for example, Teas, 1981; Kohli, 1989). Indeed, this measure of leadership style has been widely used in a variety of literatures and is generally accepted as a good measure of perceptions of leadership style (see Teas, 1981; Kohli, 1989). The precise wording of questions and items measuring leadership style is presented in Table 2.

It is accepted that business performance is a multi-dimensional and highly complex phenomenon (Lenz, 1981; Venkatraman and Ramanujam, 1987). While a number of studies have measured business performance as uni- or bi-dimensional, following the suggestions of Day and Wensley (1988) and Day and Nedungadi (1994) it was resolved to gauge performance on dimensions which reflected a broad balance between customer-focus and competitor-centred perspectives. Consequently, a measure of organization performance was synthesized from a range of studies adapted from the constructs of the preceding authors. Performance was measured by analysing long- and short-term performance constellated around two generic questions complemented by five variables which referred to performance in customer satisfaction, sales growth, market share, competitive advantage, and sales volume.

While a number of past studies had utilized five-point scales to gauge perceived leadership style (Kohli, 1989), Barnes *et al.* (1994) argue that a switch to seven-point scales has no effect on principal components analysis but often improves the reliability of answers. Consequently, it was decided to adopt the commonly used seven-point Likert-type scoring (Likert, 1932a, 1932b) for all items, since the use of seven-point scales may improve reliability and validity (Churchill and Peter, 1984) as well as all response rates (Malhotra, 1993).

After two follow-up reminders, 342 responses were received. Unfortunately, twenty of these responses were ineligible for a variety of reasons, including company liquidation and inadequate completion of the survey instrument. Following the recommendations of the Council of American Survey Research Organizations (CASRO, 1982), response rates were calculated in a manner which removed ineligible responses from the sample size. This calculation resulted in a return rate of 34.22 per cent. The majority of respondents were male (87 per cent), the average age was 41.3

years, the average length of service was nearly six years, while the average length of time in the current position was nearly four and one half years. No major differences were found between early and late respondents or between population and sample industrial classifications, suggesting that response bias may not be a problem. The following section details the results of a range of analyses of the responses to the questionnaire.

Findings

Prior to the examination of associations between leadership style, organizational culture, and performance, a phase of data reduction was necessary. The construction of meaningful indices was initiated by the use of principal components analysis with varimax rotation. Factor analysis was deemed necessary since it was considered prudent statistically to ascertain whether the adopted measures of organizational culture and leadership style captured differing dimensions of culture and style. The principal components analysis of items pertaining to organizational culture (see Table 1) and items relating to leadership style (see Table 2) were conducted individually. In accordance with the Kaiser criterion (Kaiser, 1958), factor solutions were retained only if they exhibited an eigenvalue greater than one and if they were conceptually clear and interpretable (Churchill, 1991; Hair *et al.*, 1998). It was not necessary to delete items from the analysis due to lack of variation or because of problems of interpretation. The identification and labelling of the seven extracted factors is discussed below.

Table 1 presents the principal components analysis of measures of organizational culture adapted from the work of Deshpande *et al.* (1993), Campbell and Freeman (1991) and Quinn (1988). As expected, the factor analysis of these items leads to the extraction of four factors which cumulatively explain nearly 60 per cent of the variance. The first factor loads very heavily onto a vector generating an eigenvalue of over three and accounting for over 22 per cent of the variance. Given that these items appear to gauge the extent to which an organizational culture is innovative, the solution is accepted and ascribed the label *innovative culture*. The second factor solution loads four items onto a vector generating an eigenvalue of over two and accounting for nearly 16 per cent of total variance. Each of the four items appears to gauge the degree to which an organizational culture is competitive in nature. Consequently the solution is accepted and the factor labelled as *competitive culture*. The penultimate factor solution loads four items onto a vector generating an eigenvalue of above two. The four items within this factor solution seem to gauge the degree to which culture is bureaucratic in nature, leading to the labelling of the factor as *bureaucratic culture*. The final factor loads onto a vector generating an eigenvalue of over one. The four items focus on the extent which the culture of an organization is focused on the generation and maintenance of an internal community. The factor is approved and given the label *community culture*. It should be noted that the labels adopted for the study correspond (respectively) to the market, adhocracy, clan, and hierarchy cultures of Deshpande *et al.* (1993). However, following discussions with informed practitioners and researchers, the labels competitive, innovative, bureaucratic, and community culture are used, since they are considered more practically applicable and conceptually valid. These labels are similar or consistent with the suggestions of a number of organizational theorists (see, for example, Ouchi, 1980; Mintzberg, 1979; Campbell and Freeman, 1991; Quinn, 1984).

Table 2 presents the principal components analysis of the adapted items of the House (1971a) and House and Dessler (1974) measure of leadership style. As expected, this

Table 1 *Principal components analysis of measures of organizational culture*

<i>Item</i>	<i>Innovative culture</i>	<i>Competitive culture</i>	<i>Factor loading[†] Bureaucratic culture</i>	<i>Community culture</i>	<i>Communitarity</i>
Growth and acquiring new resources. Readiness to meet new challenges is important. ^a	.83057				.70023
This company is dynamic and entrepreneurial. People are willing to take risks. ^b	.75412				.66105
A commitment to innovation and development. There is an emphasis on being first. ^c	.68099		- .33760		.47994
Entrepreneurs, innovators or risk takers. ^d	.66354	.85015			.56683
An emphasis on tasks and goal accomplishment. A production orientation is shared. ^e		.81166			.75180
Producers, technicians or hard-drivers. ^d		.80767			.69679
Competitive actions and achievement. Measurable goals are important. ^a		.60300			.70303
This company is production oriented. The major concern is with getting the job done. People aren't very personally involved. ^b	- .37925				.54354
Formal rules and policies. Maintaining a smooth-running company is important here. ^c			.84668		.72651
This company is very formalized and structured. Established procedures generally govern what people do. ^b			.72129		.59151
Co-ordinators, organizers or administrators. ^d			.64872		.43132
Permanence and stability. Efficient, smooth operations are important. ^a			.60357	.45569	.57512
Commitment to this firm runs high. Loyalty and tradition are important here. ^c				.82787	.69555
This company is personal. It's like an extended family. ^b				.79676	.67332
Human resources. High cohesion and morale in the firm are important. ^a				.54266	.57070
Mentors, sages or father/mother figures. ^d				.41028	.30412
Eigenvalues	3.59560	2.54243	2.16611	1.25157	
% Variance explained	22.5	15.9	13.5	7.8	
Cumulative % variance	22.5	38.4	51.9	59.7	

Notes

[†] Principal components analysis with varimax rotation, converging in seven iterations (all loadings less than 0.3 suppressed).
^a Question wording was 'This company emphasises:' measured on a 7-point Likert-type scale respectively anchored by (1) Not At All and (7) Very Great Extent.
^b Question wording was 'To what extent does your company place a high priority on the following?' measured on a 7-point Likert-type scale respectively anchored by (1) Not At All and (7) Very Great Extent.
^c Question wording was 'The glue which holds this company together is' measured on a 7-point Likert-type scale respectively anchored by (1) Very False and (7) Very True.
^d Question wording was 'In this company the best managers are considered to be:' measured on a 7-point Likert-type scale respectively anchored by (1) Not At All and (7) Very Great Extent.

factor analysis leads to the extraction of three factor solutions which explain over 66 per cent of variance (see Table 2). The first factor solution loads very heavily onto a vector generating an eigenvalue of over five. The five items which comprise this solution are geared towards the measurement of leadership participation. This style of leadership is a non-directive form of role-clarifying behaviour which is gauged by the extent to which leaders allow subordinates to influence decisions by requesting input and contribution. The items in this factor are conceptually consistent and easily interpreted, leading to their labelling as *participative leadership style*, with a shorthand notation of *participative leadership*. The second factor solution again loads heavily onto a vector generating an eigenvalue of over two. The four items of the solution account for over 15 per cent of the variance and appear to gauge leadership consideration. This measure of supportive leadership (occasionally referred to as leadership consideration) focuses on the degree to which the behaviour of a leader can be viewed as sympathetic, amicable, and considerate of subordinate needs. Consequently, the second factor solution is accepted and given the label *supportive leadership style*, with a shorthand label of *supportive leadership*. The final factor solution comprises those items geared towards the measurement of leadership instrumentality. This measure of leadership style is akin to directive or transactional leadership and is designed to measure the extent to which leaders specify expectations, establish procedures, and allocate tasks. The solution is, therefore, given the label *instrumental leadership style*, with the shorthand of *instrumental leadership*.

Given the widespread use of judgemental and comparative measures of performance, an index of performance was constructed by calculating the summated mean of all items for each case. This derived scale was labelled *organizational performance*. Similarly, indices were constructed for the four types of organizational culture and the three forms of leadership style through calculating the mean summated score for all items for each factor.

Prior to exploring and describing the associations between leadership style, culture, and performance, it was deemed necessary to gauge the extent of reliability and validity for each of the indices used in later analysis. Reliability was judged via the calculation of a Cronbach alpha coefficient (Cronbach, 1951). The calculation of Cronbach alpha coefficients resulted in alpha coefficients which ranged from 0.6688 to 0.9279 (see Table 3). Six of the eight measures were above the Nunnally (1978) criterion of 0.7 and could therefore be classified as acceptably reliable without further discussion. However, two of the measures fall just below this criterion, causing concern. In contrast to the Nunnally (1978) criterion of 0.7, Peterson (1994) and Slater (1995) suggest that 0.6 is the 'criterion-in-use'. This suggestion, coupled with the finding that the deletion of additional items would merely reduce the coefficient, led to the conclusion that scales were well above the 'criterion-in-use' and thus acceptably reliable.

In addition to the previously discussed efforts to improve content validity during questionnaire design, formulation and implementation (see Dillman, 1978; Churchill, 1991), to gauge the validation of index operationalization for each measure of items in the scale were correlated to the whole scale. This analysis indicated significant bivariate relationships in the anticipated direction, indicating convergent validity (see Table 3). To gauge discriminant validity, an approach akin to that of Gaski (1986) was adopted. This analysis involves correlating all the measures adopted in the study and gauging the correlation coefficients between measures against the alpha coefficients of factors (see Table 4). In the case of both organizational culture and leadership style, no correlation coefficient is higher than the alpha coefficient of the scale, leading to the suggestion that the measures adopted in the study exhibit discrimination. Overall, tests of reliability and

Table 2 Principal components analysis of measures of leadership style

Item*	Participative leadership	Factor loading [†] Supportive leadership	Instrumental leadership	Communitality
Before making decisions, s/he considers what her/his subordinates have to say.	0.86698			0.76974
Before taking action s/he consults with subordinates.	0.85945			0.80183
When faced with a problem, s/he consults with subordinates.	0.84408			0.76046
S/he asks subordinates for their suggestions.	0.82952			0.76434
S/he listens to subordinate's advice on which assignments should be made.	0.81643			0.73284
S/he helps people to make working on their tasks more pleasant.		0.78876		0.71243
S/he looks out for the personal welfare of group members.	0.30527	0.73875		0.64240
S/he does little things to make things pleasant.		0.69752		0.49712
S/he treats all group members as equals.		0.62806		0.57087
S/he explains the way tasks should be carried out.			0.78005	0.61568
S/he decides what and how things shall be done.		-0.30433	0.69205	0.60737
S/he maintains definite standards of performance.			0.66436	0.60645
S/he schedules the work to be done.			0.66361	0.52182
Eigenvalues	5.19226	2.00325	1.40784	
% Variance explained	39.9	15.4	10.8	
Cumulative % variance	39.9	55.4	66.2	

Notes

[†] Principal components analysis with varimax rotation, converging in seven iterations (all loadings less than 0.3 suppressed).
^a Question wording was 'Please indicate the extent to which the following statements are true of the Chief Executive Officer (or equivalent) of your company by circling the appropriate point' measured on a 7-point Likert-type scale respectively anchored by (1) Strongly Agree and (7) Strongly Disagree and (1) Very True and (7) Very False.

Table 3 Reliability and scale validation test results for scales of organizational culture and leadership

Scale	Number of scale items	Cronbach alpha coefficient	Inter-item correlations*	
			Lowest	Highest
Competitive culture	4	0.7692	0.4566	0.6677
Innovative culture	4	0.7642	0.4795	0.6560
Bureaucratic culture	4	0.7022	0.4244	0.6698
Community culture	4	0.6696	0.5233	0.6998
Participative leadership	5	0.9279	0.7936	0.8409
Supportive leadership	4	0.7693	0.4233	0.6751
Instrumental leadership	4	0.6688	0.4222	0.5267
Performance	10	0.8980	0.4161	0.7436

Note

* Pearson correlation coefficient. All correlations significant at the 0.001 level.

validity lead to the suggestion that the measures adopted and used in later statistical analyses fall within acceptable reliability and validity criteria.

The initial exploration of data was undertaken by the examination of the descriptive statistics of measures of culture, leadership style, and organizational performance. As stated earlier, all items were measured on seven-point scales resulting in a mid-point of four. The four measures of organizational culture are each somewhat above the mid-point of four, with reasonable dispersions of central tendency. In contrast, measures of leadership are somewhat below the mid-point, with the mean for participative leadership noticeably low. Since it is accepted that objective measures of performance are highly related to the utilized measures of performance, the comparative high performance mean may indicate an above-average SBU performance in this study (see Dess and Robinson, 1984; Pearce *et al.*, 1987; Venkatraman and Ramanujam, 1987).

Proposition 1 suggests that the association between leadership style and performance is mediated by organizational culture (see Figure 1). In order to explore potential

Table 4 Discriminant validity of measures of organizational culture and leadership style*

	<i>Competitive culture</i>	<i>Innovative culture</i>	<i>Bureaucratic culture</i>	<i>Community culture</i>
Competitive culture	<i>0.7692</i>			
Innovative culture	.3561	<i>0.7642</i>		
Bureaucratic culture	-.0099	-.3123	<i>0.7022</i>	
Community culture	-.1207	-.2175	.1793	<i>0.6696</i>

Note

* Italicized entries are Cronbach's alpha coefficients; others are correlation coefficients.

	<i>Participative leadership</i>	<i>Supportive leadership</i>	<i>Instrumental leadership</i>
Participative leadership	<i>0.9279</i>		
Supportive leadership	.5483	<i>0.7693</i>	
Instrumental leadership	-.0487	-.0816	<i>0.6688</i>

Note

* Italicized entries are Cronbach's alpha coefficients; others are correlation coefficients.

Table 5 *Descriptive statistics*

	<i>Mean</i>	<i>Standard deviation</i>
Competitive culture	4.22	1.11
Innovative culture	4.55	1.12
Bureaucratic culture	4.30	1.02
Community culture	4.64	1.14
Participative leadership	3.39	1.37
Supportive leadership	3.89	1.24
Instrumental leadership	3.74	1.17
Performance	5.05	0.95

associations between leadership style, organizational culture, and organizational performance, a path analysis approach, as discussed by Duncan (1966) and Pendhazur (1982), was utilized. Briefly, this form of analysis involves the use of multiple regression equations to construct a path model of associations. Szymanski *et al.* (1993) argue that path analysis provides a clearer understanding of the associations than the use of regression alone. Indeed, Szymanski *et al.* contend that the advantages of the path methodology over that of simple regression stems from the ability of the technique to 'provide insight into the magnitude of direct effects', 'indirect effects (i.e., the effect of a predictor on the criterion variable through an intervening variable' and 'the effect coefficients (i.e., the total effect equal to the direct plus indirect effects)' (1993: 8). Consequently, Szymanski *et al.* conclude that a path methodology enables the examination of 'whether an indirect effect embellishes, diminishes or negates an associated direct effect' (1993: 8). Thus, the form of path analysis used enables the examination of indirect as well as direct associations, thus providing a clearer understanding of relationships (Blalock, 1972; Duncan, 1966).

Table 6 presents the standardized regression coefficients (*beta*) and the coefficient of multiple determination (R^2) as well as the significance of the equations. Table 7 presents the direct and indirect effects of the independent variables of leadership style and organizational culture on the performance of an organization. Indirect effects are calculated as a simple multiplicative measure of the magnitude of sequential beta weights (Asher, 1976), while total effects comprised the sum of direct and indirect effects (Pendhazur, 1982). It should be noted that for each equation, tests for multicollinearity, linearity, normality, and homoscedasticity were conducted and no problems encountered.

The path analysis (see Figure 2) constructed from the regression equations presented in Table 6 and summarized in Table 7 suggests that all four measures of organizational culture and all three measures of leadership are associated with organizational performance in some way. However, the association between the independent variables and performance differ in three respects: first, in terms of directness, second, in relation to the form of effect and, finally, in terms of the extent of effect.

Of the seven independent factors, two measures (innovative and competitive cultures) exert a direct effect (see Tables 6 and 7 and Figure 2). Innovative culture exerts a purely direct effect on performance, while the effect of competitive culture is both direct and indirect (see Table 7 and Figure 2). In contrast, measures of bureaucratic and community culture and the three measures of leadership style all exert a purely indirect effect.

The second way in which the effects of the independent factors affect performance is in the *form* of effect. The two culture factors exerting a direct influence and the indirect effect of the measure of community culture are all positively linked to performance, whereas the indirect effect of the measure of bureaucratic culture is negative (total effect = 0.08). Similarly, two of three measures of leadership style exert an indirect and positive effect on organizational performance (participative style, total effect = 0.11; supportive leadership, total effect = 0.09). However, the indirect effect of instrumental leadership is negative (total effect = 0.08).

Finally, the effects of the independent factors on organizational performance differ in terms of the *impact* of total effects. A review of Table 7 demonstrates that the positive and direct effects of innovative and competitive cultures clearly exert the greatest impact. In contrast, the indirect association of bureaucratic and community culture is significant but noticeably weaker. Similarly, the effect of the three forms of leadership style is similar, with a pervasive effect upon performance. These points are important and will be discussed later.

In summary, all the independent factors exert *an* effect upon performance, although the impact and form of the effect differ. The finding of indirect links between the three forms of leadership style and organizational performance supports the proposition developed earlier, leading to the suggestion that sufficient evidence is found to argue that the link between leadership style and performance is mediated by organizational culture.

Conclusions and implications

In an evaluation of studies of organizational culture, leadership style, and organizational performance, it emerged that, while some evidence exists of links between organizational culture and performance and between leadership style and performance, the combined study of all three of these concepts has been lacking. Consequently, based on theories which suggest that leadership style and organizational culture are linked, it was proposed that organizational culture mediates the association between leadership style and performance. In an effort to redress this literature imbalance, the results of a survey were analysed and sufficient empirical evidence found to support this claim. That is, the results of this study indicate that leadership style is not directly linked to performance *but* is merely indirectly associated. In contrast, competitive and innovative cultural traits are directly linked with performance (as predicted) while, contrary to expectations, community and bureaucratic cultural traits are not directly related.

Whereas it is frequently assumed that organizational culture is directly linked to the performance of an organization (for example, Denison, 1990) and that changes to cultural traits will impact immediately on effectiveness and efficiency (for instance, Kotter and Heskett, 1992), the results of this study provide mixed support for this view. Past research into cultural strength has suggested that cultures which are widely shared (that is, strong) are positively linked with company success (see Deal and Kennedy, 1982; DiTomaso, 1987; Sathe, 1983; Schall, 1983; Weick, 1985; Weiner, 1988). However, the results of the current study indicate that two forms of culture (bureaucratic and community) are *not* directly related to performance. Interestingly, both bureaucratic and community cultures are each characterized by an emphasis on integration, internal cohesiveness, and the establishment of uniformity (that is creating a strong culture). In this sense, in the case of internally oriented cultures, little evidence is found to support claims of a link between cultural strength and performance. Hence, while the results indicate that the two internally oriented cultures are weakly and

indirectly linked with performance, the total effects of such cultures on performance (see Table 7) are such that significant managerial attention to internal maintenance appears unproductive or even damaging.

However, the analysis of the links between competitive and innovative forms of culture and organizational performance finds direct, strong, and positive associations. Indeed, the coefficient of multiple determination (R^2) for the first multiple regression analysis (see Table 6) finds that innovative and competitive cultures account for nearly a quarter of the variance in organizational performance. Interestingly, that which is distinctive about both competitive and innovative cultures is the emphasis each places on competitive external positioning and responsiveness. These findings are broadly consistent with a range of studies which suggest that externally oriented organizational cultures are positively linked with performance (for example, Slater and Narver, 1994; Greenley, 1995) as well as a growing body of research which suggests that the alignment of organizational culture towards strategic needs is a central, albeit difficult, role for senior executives (see Harris and Ogbonna, 1999). Therefore, the finding of positive associations between externally oriented cultures and performance suggests that organizational culture change efforts should focus as much on generating external focus as upon creating internal cohesion and consistency.

The above findings have implications for the generation of competitive advantage. Instead of presenting an organization with an advantage over competitors, an internally oriented organizational culture may prove comparatively disadvantageous when compared to the advantages possible with externally oriented cultures. Indeed, the negative links between bureaucratic culture and performance suggest that bureaucratization reduces short-term profitability, impedes long-term growth and may even affect the survival of the organization. In direct contrast to theories which merely espouse the generation of widely shared values (for example, Denison 1990; Kotter and Heskett, 1992) the results of the current study clearly demonstrate that strongly held values are appropriate only if the culture is geared towards the external environment. Thus, competitive and innovative cultures which are sensitive to external conditions have a strong and positive impact on organizational performance. This point provides some support for the work of Barney (1986, 1991) who argues that for organizational culture to provide a source of *sustainable* competitive advantage, the culture must be adaptable to external contingencies.

As predicted, the associations between the leadership styles studied and organizational performance are all mediated by some form of organizational culture (see Figure 2). An imprudent interpretation of this finding could be that leadership styles are not important in relation to performance. This interpretation would clearly be unwise. Whereas leadership styles are not a strong direct predictor of organizational performance, the total effects analysis presented in Table 7 indicates significant, indirect pervasive effects on organizational performance. Furthermore, the multiple regression analyses documented in Table 6 indicate that leadership styles *are* strong predictors of both competitive and innovative cultures (which in turn are strong predictors of performance).

Interestingly, while all of the leadership styles analysed are significantly indirectly associated with performance, instrumental leadership is negatively linked while supportive and participative leadership styles are positively related (see Table 7). The finding of a negative indirect link between instrumental leadership and performance contributes empirical evidence in support of a large number of anecdotal studies which claim that such a 'transactional' leadership style is not consistent with superior performance (see, for example, Bycio *et al.*, 1995; Bass and Avolio, 1993). The results

of the current study also contribute to existing knowledge of the effects of supportive and participative leadership styles. While anecdotal evidence of a direct performance link was not supported, both supportive and participative leadership styles are positively associated with innovative and competitive forms of culture. These results indicate that the generation of an organizational culture, which is externally oriented, is significantly influenced by the extent to which a leader is supportive of followers and includes followers in decision-making processes.

A practical implication arising from this study pertains to what has become known as the 'managing culture debate' (Ogbonna, 1993). As is indicated in the literature review, considerable debate has occurred on the issue of whether organizational culture can be managed. The overall conclusion of this debate appears to be that the *management* of organizational culture is not possible (see Legge, 1994), *although* certain contingencies (such as crises or leadership turnover) may present the opportunity to *influence* organizational culture (Martin and Meyerson, 1988). The findings of this study lead to the suggestion that a potential solution to the difficulties associated with changing organizational culture may involve focusing on leadership style. While, conceptually and practically, managing culture is at best difficult (Ogbonna and Harris, 1998b) and at worst impossible (Ogbonna, 1993), changes to leadership styles are comparatively easily achieved. Consequently, while the literature is replete with 'quick-fix' culture change programmes designed to improve organizational performance (see Deal and Kennedy, 1982), the findings of this paper clearly suggest that, consistent with Fiedler (1996), leadership-change programmes would be more appropriate.

While this study is designed to provide empirical evidence of the links between organizational culture, leadership style, and organizational performance, as with most social science studies, the results of the study raise additional questions, while the limitations of research suggest alternative avenues for research. Although the cross-sectional nature of the study precludes claims of causality, additional research adopting a longitudinal design would provide interesting insight into the direction of associations. Similarly, while the findings, implications, and conclusions of this study are bounded by the context of the research, potentially fruitful research could involve the replication of this study in a number of different contexts (including specific industries or different countries). Finally, the results of this study are limited and constrained by the measures adopted to gauge organizational culture and leadership style. While the measures used are accepted as reliable and valid and their selection is defensible, additional insights into association may be gained by adopting measures of culture and leadership style which reflect different perspectives. Indeed, while it is hoped that this study will trigger further debate, without additional research it seems likely that the links between leadership style, organizational culture, and performance will remain confusing to both practitioners and theorists. Indeed, Schein notes that 'leadership and culture are so central to understanding organizations and making them effective that we cannot afford to be complacent about either one' (1985: 327).

References

- Alvesson, M. (1990) 'On the Popularity of Organizational Culture', *Acta Sociologica*, 1: 31-49.
- Argyris, C. (1955) 'Some Characteristics of Successful Executives', *Personnel Journal*, June: 50-63.
- Asher, H.B. (1976) *Casual Modelling*. Beverley Hills, CA: Sage.

- Barnes, J.H., Daswar, A.K. and Gilbert, F.W. (1994) 'Number of Factors Obtained by Chance: A Situation Study'. In Wilson, K.J. and Black, W. (eds) *Developments In Marketing Science*, Vol. XVII. Nashville, TN: Academy of Marketing Science.
- Barney, J.B. (1986) 'Organizational Culture: Can It Be a Source of Sustained Competitive Advantage?', *Academy of Management Review*, 11(3): 656-65.
- Barney, J.B. (1991) 'Firm Resources and Sustained Competitive Advantage', *Journal of Management*, 17(March): 99-120.
- Bass, B.M. (1985) *Leadership and Performance Beyond Expectation*. New York: The Free Press.
- Bass, B.M. and Avolio, B.J. (1993) 'Transformational Leadership and Organizational Culture', *Public Administration Quarterly*, 17(1): 112-17.
- Blalock, H.M. (ed.) (1972) *Casual Models in the Social Sciences*. Chicago: Aldine.
- Bowman, C. and Ambrosini, V. (1997) 'Using Single Respondents in Strategy Research', *British Journal of Management*, 8: 119-31.
- Bowers, D.G. and Seashore, S.E. (1966) 'Predicting Organizational Effectiveness with a Four-Factor Theory of Leadership', *Administrative Science Quarterly*, 11: 238-63.
- Brown, A. (1992) 'Organizational Culture: The Key to Effective Leadership and Organizational Development', *Leadership and Organizational Development Journal*, 13(2): 3-6.
- Bycio, P., Hackett, R.D. and Allen, J.S. (1995) 'Further Assessments of Bass's (1985) Conceptualization of Transactional and Transformational Leadership', *Journal of Applied Psychology*, 80(4): 468-78.
- Campbell, J.P. and Freeman, S.J. (1991) 'Cultural Congruence, Strength and Type: Relationships to Effectiveness'. In Woodman, R.W. and Passmore, W.A. (eds) *Research in Organizational Change and Development*, Vol. 5. Greenwich, CT: JAI Press.
- Churchill, G.A. (1991) *Marketing Research: Methodological Foundations*. London: The Dryden Press.
- Churchill, G.A. and Peter, J.P. (1984) 'Research Design Effect on the Reliability of Rating', *Journal of Marketing Research*, 16(November): 360-75.
- Conant, J.S., Mokwa, M.P. and Varadarajan, P.R. (1990) 'Strategic Types, Distinctive Marketing Competencies and Organizational Performance: A Multiple Measures Study', *Strategic Management Journal*, 11(September): 365-83.
- Cooke, R.A. and Rousseau, D.M. (1988) 'Behavioural Norms and Expectations: A Quantitative Approach to the Assessment of Organizational Culture', *Group and Organization Studies*, 13(3): 245-73.
- Council of American Survey Research Organisations (1982) *On the Definition of Response Rates*, CASRO Special Report. Port Jefferson, NY: The Council of American Survey Research Organisations.
- Cronbach, L.J. (1951) 'Coefficient Alpha and the Internal Structure of Tests', *Psychometrika*, 16: 297-334.
- Darcy, T. and Kleiner, B.H. (1991) 'Leadership for Change in a Turbulent Environment', *Leadership and Organization Development Journal*, 12(5): 12-16.
- Day, G.S. and Nedungadi, P. (1994) 'Managerial Representations of Competitive Advantage', *Journal of Marketing*, 58(April): 31-44.
- Day, G.S. and Wensley, R. (1983) 'Marketing Theory with a Strategic Orientation', *Journal of Marketing*, 47(Fall): 79-89.
- Deal, T.E. and Kennedy, A.A. (1982) *Corporate Cultures: The Rites and Rituals of Corporate Life*. Reading, MA: Addison-Wesley.
- Denison, D.R. (1990) *Corporate Culture and Organisational Effectiveness*. New York: Wiley.
- Denison, D.R. (1996) 'What is the Difference between Organizational Culture and Organizational Climate? A Native's Point of View on a Decade of Paradigm Wars', *Academy of Management Review*, 21(3): 619-54.
- Deshpande, R., Farley, J.U. and Webster, F.E. (1993) 'Corporate Culture, Customer Orientation and Innovativeness in Japanese Firms: A Quadrad Analysis', *Journal of Marketing*, 57(January): 23-7.

- Dess, G.G. and Robinson, R.B. (1984) 'Measuring Organizational Performance in the Absence of Objective Measures: The Case of the Privately Held Firm and Conglomerate Business Unit', *Strategic Management Journal*, 5: 265–73.
- Dholakia, R.R., Johnson, J.L., Della Bitta, A.J. and Dholakia, N. (1993) 'Decision-Making Time in Organisational Buying Behaviour: An Investigation of its Antecedents', *Journal of the Academy of Marketing Science*, 21(4): 281–93.
- Diamantopoulos, A., Schlegelmilch, B.B. and Webb, L. (1991) 'Factors Affecting Industrial Mail Response Rates', *Industrial Marketing Management*, 20: 327–39.
- Dillman, D.A. (1978) *Mail and Telephone Surveys: The Total Design Method*. New York: Wiley.
- DiTomaso, N. (1987) 'Symbolic Media and Social Solidarity: The Foundations of Corporate Culture', *Research in the Sociology of Organizations*, 5: 105–34.
- Duncan, O.D. (1966) 'Path Analysis: Sociological Examples', *American Journal of Sociology*, 72: 1–16.
- Duncan, W.J. (1979) 'Mail Questionnaires in Survey Research: A Review of Response Inducement Techniques', *Journal of Management*, 5(1): 39–55.
- Faria, A.J. and Dickinson, J.R. (1992) 'Mail Survey Response, Speed and Cost', *Industrial Marketing Management*, 21: 51–60.
- Fiedler, F.E. (1967) *A Theory of Leadership Effectiveness*. New York: McGraw-Hill.
- Fiedler, F.E. (1996) 'Research on Leadership Selection and Training: One View of the Future', *Administrative Science Quarterly*, 41: 241–50.
- Fleishman, E.A. (1957) 'A Leadership Behavior Description for Industry'. In Stogdill, R.M. and Coons, A.E. (eds) *Leader Behavior: Its Description and Measurement*. Columbus, OH: The Ohio State University Bureau of Business Research.
- Gaski, J.F. (1986) 'Interrelations among a Channel Entity's Power Sources: Impact of the Exercise of Reward and Coercion on Expert, Referent, and Legitimate Power Sources', *Journal of Marketing Research*, 23: 62–77.
- Gordon, G.G. and DiTomaso, N. (1992) 'Predicting Corporate Performance from Organizational Culture', *Journal of Management Studies*, 29(6): 783–98.
- Greenley, G.E. (1995a) 'Market Orientation and Company Performance: Empirical Evidence from U.K. Companies', *British Journal of Management*, 6(1): 1–14.
- Gundlach, G.T. and Cadotte, E.R. (1994) 'Exchange Interdependence and Interfirm Interaction: Research in a Simulated Channel Setting', *Journal of Marketing Research*, 31(November): 516–33.
- Hair, J.F., Anderson, R., Tatham, R.L. and Black, W.C. (1998) *Multivariate Data Analysis*, 4th edn. Englewood Cliffs, NJ: Prentice Hall.
- Hambrick, D.C. (1981). 'Strategic Awareness within the Top Management Team', *Strategic Management Journal*, 2: 263–79.
- Harris, L.C. and Ogbonna, E. (1999) 'Developing a Market Oriented Culture: A Critical Evaluation', *Journal of Management Studies*, in press.
- Hemphill, J.K. and Coons, A.E. (1957) 'Development of the Leader Behaviour Description Questionnaire'. In Stogdill, R.M. and Coons, A.E. (eds) *Leadership Behaviour: Its Description and Measurement*. Columbus, OH: The Ohio State University, Bureau of Business Research.
- Hennessey, J.T. (1998) '“Reinventing” Government: Does Leadership Make the Difference?', *Public Administration Review*, 58(6): 522–32.
- Hopfl, H., Smith, S. and Spencer, S. (1992) 'Values and Valuations: Corporate Culture and Job Cuts', *Personnel Review*, 21(1): 24–38.
- House, R. (1971a) 'A Path-Goal Theory of Leadership', *Journal of Contemporary Business*, 3: 81–97.
- House, R.J. (1971b) 'A Path-Goal Theory of Leader Effectiveness,' *Administrative Science Quarterly*, 16(September): 321–38.
- House, R.J. and Dessler, G. (1974) 'The Path-Goal Theory of Leadership: Some Post Hoc and A Priori Tests'. In Hunt, J.G. and Larson, L.L. (eds) *Contingency Approaches to Leadership*. Carbondale, IL: Southern Illinois University Press.

- Howell, J.M. and Avolio, B.J. (1993) 'Transformational Leadership, Transactional Leadership, Locus of Control and Support for Innovation: Key Predictors of Consolidated-Business-Unit Performance', *Journal of Applied Psychology*, 78: 891-902.
- Johnson, G. (1992) 'Managing Strategic Change – Strategy, Culture and Action', *Long Range Planning*, 25(1): 28-36.
- Kaiser, H.F. (1958) 'The Varimax Criterion for Analytic Rotation in Factor Analysis', *Psychometrika*, 23: 187-200.
- Kohli, A. (1989) 'Effects of Supervisory Behavior: The Role of Individual Differences Among Salespeople', *Journal of Marketing*, 53(October): 40-50.
- Kornhauser, A. and Sheatsley, P.B. (1976) 'Questionnaire Construction and Interview Procedure'. In Sellitiz, C., Wrightsman, L.S. and Cook, S.W. *Research Methods in Social Relations*, New York: Holt, Rinehart & Winston, pp. 541-73.
- Kotter, J.P. and Heskett, J.L. (1992) *Corporate Culture and Performance*. New York: The Free Press.
- Krefting, L.A. and Frost, P.J. (1985) 'Untangling Webs, Surfing Waves, and Wildcatting: A Multiple-Metaphor Perspective on Managing Culture'. In P.J. Frost *et al.* (eds) *Organization Culture*. Beverly Hills, CA: Sage.
- Legge, K. (1994) 'Managing Culture: Fact or Fiction'. In Sisson, K. (ed.) *Personnel Management: A Comprehensive Guide to Theory and Practice in Britain*. Oxford: Blackwell, pp. 397-433.
- Lenz, R.T. (1981) 'Determinants of Organizational Performance: An Interdisciplinary Review', *Strategic Management Journal*, 2: 131-54.
- Lewis, D.S. (1994) 'Organizational Change: Relationship Between Reactions Behaviour and Organizational Performance', *Journal of Organizational Change Management*, 7(5): 41-55.
- Likert, R. (1932a) 'The Method of Constructing an Attitude Scale'. In Fishbein, M. (ed.) *Readings in Attitude Theory and Measurement*. New York: Wiley, 1967, pp. 90-5.
- Likert, R. (1932b) 'A Technique for the Measurement of Attitudes', *Archives of Psychology*, 140.
- Likert, R. (1961) *New Patterns of Management*. New York: McGraw-Hill.
- Lim, B. (1995) 'Examining the Links Between Organizational Culture and Organizational Performance', *Leadership and Organizational Development Journal*, 16(5): 16-21.
- Mahoney, T.A., Jardee, T.H. and Allan, N.N. (1960) 'Predicting Managerial Effectiveness', *Personnel Psychology*, Summer: 147-63.
- Malhotra, N.K. (1993) *Marketing Research: An Applied Orientation*. London: Prentice Hall International.
- Martin, J. (1992) *Cultures in Three Organizations: Three Perspectives*. London: Oxford University Press.
- Martin, J. and Meyerson, D. (1988) 'Organizational Culture and the Denial, Channelling and Acknowledgement of Ambiguity'. In Pondy, L., Boland, R. and Thomas, H. (eds) *Managing Ambiguity and Change*. New York: Wiley, pp. 93-125.
- Mintzberg, H. (1979) *The Structuring of Organization*. Englewood Cliffs, NJ: Prentice Hall.
- Mullins, L.J. (1999) *Management and Organizational Behaviour*. London: Financial Times.
- Murphy, P.R., Dalenberg, D.R. and Daley, J.M. (1990) 'Improving Survey Responses with Postcards', *Industrial Marketing Management*, 19: 349-55.
- Nayyar, P. (1992) 'On the Measurement of Corporate Diversification Strategy: Evidence from Large US Service Firms', *Strategic Management Journal*, 13: 219-35.
- Nicholls, J. (1988) 'The Transforming Autocrat', *Management Today*, March: 114-18.
- Nunnally, J.C. (1978) *Psychometric Theory*. New York: McGraw-Hill.
- Ogbonna, E. (1993) 'Managing Organizational Culture: Fantasy or Reality?', *Human Resource Management Journal*, 3(2): 42-54.
- Ogbonna, E. and Harris, L.C. (1998a) 'Organizational Culture: It's Not What You Think ...', *Journal of General Management*, 23(3): 35-48.
- Ogbonna, E. and Harris, L.C. (1998b) 'Managing Organizational Culture: Compliance or Genuine Change?', *British Journal of Management*, 9: 273-88, 221-6.
- Ouchi, W.G. (1980) 'Markets, Bureaucracies and Clans', *Administrative Science Quarterly*, 25(March): 129-41.

- Ouchi, W.G. (1981) *Theory Z: How American Business Can Meet the Japanese Challenge*. Reading, MA: Addison-Wesley.
- Pascale, R.T. and Athos, A.G. (1981) *The Art of Japanese Management: Applications for American Executives*. New York: Simon & Schuster.
- Paxson, M.C. (1992) 'Follow-Up Mail Surveys', *Industrial Marketing Management*, 21: 195–201.
- Pearce, J.A., Robbins, D.K. and Robinson, R.B. (1987) 'The Impact of Grand Strategy and Planning Formality on Financial Performance', *Strategic Management Journal*, 8: 125–34.
- Pendhazur, E.J. (1982) *Multiple Regression in Behavioral Research*. Fort Worth: Holt, Rinehart & Winston.
- Peters, T. and Waterman, R. (1982) *In Search of Excellence*. New York: Random House.
- Peterson, R. (1994) 'A Meta-Analysis of Cronbach's Coefficient Alpha', *Journal of Consumer Research*, 21(2): 381–91.
- Pettigrew, A.M. (1979) 'On Studying Organizational Cultures', *Administrative Science Quarterly*, 24: 570–81.
- Porter, L. and McKibben, L.M. (1988) *Management and Development: Drift or Thrust into the 21st Century?* New York: McGraw-Hill.
- Prahalad, C.K. and Bettis, R.A. (1986) 'The Dominant Logic: A New Linkage Between Diversity and Performance', *Strategic Management Journal*, 7: 485–501.
- Quick, J.C. (1992) 'Crafting an Organizational Culture: Herb's Hand at Southwest Airlines', *Organizational Dynamics*, 21(2): 45–56.
- Quinn, R.E. (1984) 'Applying the Competing Values Approach to Leadership'. In Hunt, J.G., Stewart, R., Schriesheim, C.A. and Hosking, D. (eds) *Managerial Work and Leadership: International Perspectives*. New York: Pergamon Press.
- Quinn, R.E. (1988) *Beyond Rational Management*. San Francisco: Jossey-Bass.
- Ray, C.A. (1986) 'Corporate Culture: The Last Frontier of Control', *Journal of Management Studies*, 23(3): 251–97.
- Reed, R. and DeFillippi, R.J. (1990) 'Causal Ambiguity, Barriers to Imitation, and Sustainable Competitive Advantage', *Academy of Management Review*, 15: 88–102.
- Riley, P. (1983) 'A Structurationist Account of Political Culture', *Administrative Science Quarterly*, 28: 414–37.
- Saari, L., Johnson, T.R., McLaughlin, S.D. and Zimmerly, D.M. (1988) 'A Survey of Management Education Practices in the U.S. Companies', *Personnel Psychology*, 41: 731–43.
- Sathe, V. (1983) 'Implications of Corporate Culture: A Manager's Guide to Action', *Organizational Dynamics*, Autumn: 5–23.
- Schall, M. (1983) 'A Communication-rules Approach to Organizational Culture', *Administrative Science Quarterly*, 28: 557–81.
- Schein, E.H. (1985) *Organizational Culture and Leadership*, 1st edn. San Francisco: Jossey-Bass.
- Schein, E.H. (1986) 'What You Need to Know About Your Organizational Culture', *Training and Development Journal*, 40(1): 30–3.
- Schein, E.H. (1992) *Organizational Culture and Leadership*, 2nd edn. San Francisco: Jossey-Bass.
- Scholz, C. (1987). 'Corporate Culture and Strategy – The Problem of Strategic Fit', *Long Range Planning*, 25(Winter): 3–16.
- Sheatsley, P.B. (1983) 'Questionnaire Construction and Item Writing'. In Rossi, P.H., Wright, J.D. and Andersen, A.B. (eds) *Handbook of Survey Research*. New York: Academic Press, pp. 195–230.
- Siehl, C. (1985) 'After the Founder: An Opportunity to Manage Culture'. In Frost, P.J. *et al.* (eds) *Organizational Culture*. Beverly Hills, CA: Sage, pp. 125–40.
- Simms, J. (1997) 'Beauty Queen', *Marketing Business*, March: 48–51.
- Slater, S. (1995). 'Issues in Conducting Marketing Strategy Research', *Journal of Strategic Marketing*, 3(4): 257–70.

- Slater, S.F. and Narver, J.C. (1994) 'Does Competitive Environment Moderate the Market Orientation-Performance Relationship?', *Journal of Marketing*, 58(January): 46-55.
- Smircich, L. (1983) 'Concepts of Culture and Organizational Analysis', *Administrative Science Quarterly*, 28(September): 339-58.
- Snow, C.C. and Hrebiniak, L.G. (1980) 'Strategy, Distinctive Competence and Organizational Performance', *Administrative Science Quarterly*, 25: 317-35.
- Stogdill, R.M. (1948) 'Personal Factors Associated with Leadership', *Journal of Psychology*, 25: 35-71.
- Stogdill, R.M. (1963) *Manual for Leadership Description Questionnaire Form XII*, Columbus, OH: The Ohio State University Bureau of Business Research.
- Szymanski, D.M., Bharadwaj, S.G. and Varadarajan, P.R. (1993) 'Standardization versus Adaptation of International Marketing Strategy: An Empirical Investigation', *Journal of Marketing*, 25: 1-17.
- Taffinder, P. (1995) *The New Leaders: Achieving Corporate Transformation Through Dynamic Leadership*. London: Kogan Page.
- Teas, R.K. (1981) 'An Empirical Test of Salesperson's Job Expectancy and Instrumentality Perceptions', *Journal of Marketing Research*, 18(May): 209-26.
- Thorlindsson, T. (1987) *The Skipper Effect in the Icelandic Herring Industry*. Reykjavik: University of Iceland.
- Venkatraman, N. and Ramanujam, V. (1987) 'Measurement of Business Economic Performance: An Examination of Method Congruence', *Journal of Management*, 13(1): 109-22.
- Vroom, V. and Yetton, P. (1974) *Leadership and Decision-Making*. Pittsburgh, PA: University of Pittsburgh Press.
- Weick, K. (1985) 'Sources of Order in Under Organized Systems: Themes in Recent Organizational Theory'. In Lincoln, Y.S. (ed.) *Organizational Theory and Inquiry: The Paradigm Revolution*. Beverly Hills, CA: Sage.
- Weiner, Y. (1988) 'Forms of Value Systems: A Focus on Organizational Effectiveness and Cultural Change and Maintenance', *Academy of Management Review*, 13(4): 534-45.
- Willmott, H. (1993) 'Strength is Ignorance: Slavery is Freedom: Managing Culture in Modern Organizations', *Journal of Management Studies*, 30(4): 515-51.
- Xenikou, A. and Furnham, A. (1996) 'A Correlational and Factor Analysis Study of Four Questionnaire Measures of Organizational Culture', *Human Relations*, 49(3): 349-71.
- Zahra, S.A. and Covin, J.G. (1993) 'Business Strategy, Technological Policy and Firm Performance', *Strategic Management Journal*, 14: 451-78.