# Leadership Applications – Organizational Effectiveness

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## Introduction

Leadership occurs in an environment embedded in ambiguity, complexity, and informational overload (Hambrick, 1989). Marion and Uhl-Bien (2001, p. 410) characterise such environments as "complex systems [which] totter on the edge of chaos, sufficiently active to be dynamic but not so active they risk continual disruption." Organisational viability depends on leaders maintaining the integrity and reliability of internal systems while adapting to the external environment. Internal maintenance and external adaptability are to some extent incompatible functions, and efforts to make the organisation more reliable and predictable may limit its ability to be flexible and responsive (Chemers, 2001; Schein, 1985). Consequently, organisations rely on the skilled performance of their leaders to solve complex and ill-defined organisational problems and to balance the competing demands of the external and internal environments (Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000).

This paper focuses firstly on the ideas put forward in Behavioural Complexity Theory (Hooijberg & Quinn, 1992) to account for leadership behaviours that meet the challenges posed by turbulent environments. The theory amplifies the behaviours and processes required for leading dynamic systems that are evident in military organisations by examining the cognitive and social determinants of behavioural complexity which affect leader and organisational effectiveness.

The second part of the paper integrates behavioural complexity into the Competing Values Framework (Quinn, 1988) to further understanding of the ways in which flexible leadership can balance multiple requirements in a dynamic, unstable, and unpredictable environment. The Competing Values Framework was developed to clarify the complex and paradoxical nature of organisational effectiveness. Quinn and Kimberley (1984) suggest that the framework can be used to explore the deep structure of organisational culture, the basic assumptions that are made about leadership, values,

effectiveness, and organisational change and development.  The framework provides a tool to broaden thinking about choices and effectiveness in organisations.  Finally, the paper examines the practical implications of behavioural complexity and the Competing Values Framework for leadership development in military environments.

**Organisational Effectiveness in the Military**

Definitions of organisational effectiveness have generated considerable debate. In one sense, organisational effectiveness has no objective reality but is a concept that exists in people's minds. However, the criteria of effectiveness most highly valued in a hierarchical organisation are efficiency, timeliness, smooth functioning, and predictability (Cameron & Quinn, 1999).  Organisational effectiveness has been commonly defined as the extent to which an organisation accomplishes its goals or mission (Cameron & Whetton, 1983). In simple terms, military organisations aim to defend their country which would mean that organisational effectiveness could be judged by whether the military are capable of defeating a foreign or domestic aggressor.

In peace times, there are few situations where combat performance under real circumstances can be gauged.  According to Nebeker (1994)**,** modern military organisations may be considered most effective if they deter aggression, that is, if no situation arises to test performance they have spent years preparing to execute.  On the other hand, it could be argued that having a military organisation that never fights a war is very inefficient and therefore, in terms of organisational effectiveness, *readiness*, the potential to perform well may be viewed as a more appropriate substitute for effectiveness and capability when the organisation is not involved in operations (Morrison & Fletcher, 2002). In other words, leaders use standardised expert judgements to assess readiness as an estimation to predict how a military organisation or unit would perform in real combat situations.

Military leaders are the agents of change who facilitate organisational effectiveness or readiness. This is based on the implicit assumptions that leadership is important, that leaders make a difference, and that positive group and organisational effects are produced by leaders and the leadership process (Pierce & Newstrom, 2000). Leadership and organisational effectiveness are interdependent. Thus, the major

challenge for leadership is to enable effectiveness within the contemporary military environment.

**The Contemporary Military Environment**

The contemporary military environment demonstrates the paradox of accommodating the demands of the internal and external environment.  Military organisations are experiencing major changes in size, mission, composition, and technology (Segal, 1992). The military undertake traditional missions requiring conventional leadership skills but circumstances are changing that expand the range of demands on leaders. For example, peacekeeping operations require a change of focus from force to persuasion. Units have to be responsible for "more missions and more and different threats in more theatres of operations, with smaller force structures.  At the same time, the civilian sector is less willing to accept casualties, which in turn creates a higher demand for reducing the uncertainty in the risks taken" (Fallesen, 2000, p. 186).  In addition, the military may face reduced legitimacy and increased controversy.

Cultural and social changes in the wider society are reflected in the diversity of the military in terms of ethnicity, race, education, and gender which present challenges for leaders in terms of building an effective coalition force with a common intent. Further, the changing composition of the military and the legitimacy of direct civilian intervention (Hunt, Dodge, & Wong, 2000) draws leaders into facing morally and politically sensitive issues.  The military as a public sector organisation frequently confronts complexity, for example in having to interpret and implement government legislation and policies (Dunk & Lysons, 1997).  In addition, increased sophistication of weaponry together with technology that increases the social distance between leaders and subordinates create immense challenges for military leaders. Overall, the environmental complexity creates high levels of ambiguity and dynamism which require versatile ways of thinking and problem solving.

**Behavioural Complexity**

As people attempt to make sense of an increasingly complicated and ever-changing world, they frequently simplify reality into polarised, either/or distinctions that conceal complex interrelationships.  The need to deal with paradox, that is, contradictions, mixed messages, conflicting demands, or opposing perspectives

requires developing a deeper understanding of the issues confronting leaders. An individual's ability to respond to a volatile, complex, and potentially ambiguous environment has been referred to as behavioural complexity (Satish, 1997). Rather than defining an infinite set of contingencies, behavioural complexity suggests the development of a portfolio of leadership functions that allow a leader to act in response to complex demands (Hooijberg, 1996). Therefore, effective leaders perform multiple and contrasting roles and behaviours in complex settings (Denison, Hooijberg, & Quinn, 1995).

The concept of behavioural complexity acknowledges the central idea that leaders have to manage a network of relationships that includes superiors and peers as well as subordinates. As the size and differentiation of leaders' networks grow, so does the potential for paradox and contradiction. The ability of leaders to match their behavioural portfolios or repertoires to the demands of situations thus becomes their distinctive competence (Hooijberg, 1996).

**Behavioural Repertoire**[1]

The concept of a behavioural repertoire refers to the portfolio of high-impact leadership functions that can be performed. The broader a leader's behavioural repertoire, the more likely it is that the leader can respond appropriately to the demands of the environment. Leaders who have limited behavioural repertoires are unlikely to be successful except in highly stable environments (Boal & Whitehead, 1992). In contrast, the need for a broad repertoire becomes especially important as the leader's job becomes more complex. Further, the disappearance of the known enemy, changing national borders, more direct contact with both domestic and foreign civilians, and organisational restructuring processes require military leaders to have a greater behavioural repertoire than previously recognised (Hooijberg, Bullis, & Hunt, 1999).

As leaders ascend the organisational hierarchy, they require a broader behavioural repertoire to fulfil a variety of roles in different organisational contexts. Leaders at the strategic apex of the organisation are required to engage with many stakeholders

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[1] Adapted from Denison et al. (1995); Boal & Hooijberg (2001).

including those outside the organisation (e.g., suppliers, government agencies, the general public, the press and others). The basis for such interactions differs widely, and different forms of influence are required (Lord, 2001). Although, Marion and Uhl-Bien (2001) maintain that it is desirable to have leaders throughout an organisation who are capable of handling complexity, it is particularly important to have such leaders at levels where the decisions they make address longer time spans of responsibility and where the situations they face are more complex. A key aspect to understanding behavioural complexity is to differentiate it from cognitive complexity.

**Cognitive complexity**

Cognitive complexity is a determining condition for behavioural complexity (Hooijberg & Quinn, 1992) and refers to the ability to develop complex mental models for interpreting feedback, the ability to understand dynamic processes, and the ability to visualise relationships among different parts of a complex system (Yukl, 1999). The underlying assumption of cognitive complexity is that cognitively complex individuals process information differently from cognitively less complex individuals because they use more categories to discriminate among stimuli and see more commonalities among these categories or dimensions (Boal & Hooijberg, 2001). Cognitive complexity reflects a concern for how individuals construct meaning. In contrast, measures of cognitive style such as the Myers Briggs Type Indicator (MBTI, Myers & McCaulley, 1985) are concerned with self-perceptions of decision-making preferences (Lewis & Jacobs, 1992).

The concept of cognitive complexity relates to cognitive readiness, the mental preparation personnel require which includes the skills, knowledge, abilities, motivations, and personal dispositions to sustain competent performance in the unpredictable environment of modern military operations. According to Morrison and Fletcher (2002, p. 167), cognitive readiness emphasises mental preparedness to "sustain performance while facing combat stressors, such as information overload, information uncertainty, social isolation, fatigue, physical discomfort, and danger. This environment requires more than simple endurance; it requires the individual to be flexible, and even creative, in responding to the challenges presented by the surrounding chaos."

Cognitive complexity among leaders at different levels of organisations has been investigated using Stratified Systems Theory (SST, Jacobs & Jaques, 1987;, 1990; Jaques, 1978; Jaques & Clement, 1991; Lewis & Jacobs, 1992). According to SST, although executive leaders are likely to possess stronger conceptual, interpersonal, and technical skills than lower-level leaders, but their analytical capacities are considered to be the most significant determinant of their leadership effectiveness (Zaccaro, 2001). Leaders who are able to tackle cognitively complex problems have higher levels of cognitive capacity, that is, they have more creative problem-solving abilities (Satish, 1997).

Novel, ill-defined problems cannot be solved simply through the routine applications of extant knowledge (Baughman & Mumford, 1995). While heuristics (rules of thumb) and simple problem-solving models are useful in routine situations, more complex cognitive processes are required to successfully deal with an ever-changing environment. Leaders are often presented with ill-defined problems that lack a single solution path allowing a problem to be construed in a number of different ways (Mumford, Zaccaro, Harding et al., 2000). Leaders need to have an increased capacity to reconceptualise problems in order to excel at planning, and to be more effective strategists (Streufert & Swezey, 1986).

Leaders differ in their abilities to handle the challenges presented by cognitively complex environments. Sophisticated testing allows the matching of leaders to particular situations depending on the complexity of the situation and the individual capacity to handle cognitive complexity. For example, more structured, step-by-step linear presentation of data and procedures is likely to suit leaders with lower levels of cognitive and behavioural complexity who have a greater need for structure, order, and formalisation. In contrast, leaders with high levels of cognitive and behavioural complexity find it more intrinsically satisfying to use general principles and cognitive maps (Hendrick, 1996). Therefore, cognitive complexity has important implications for the recognition and optimisation of human resources in the military.

Hooijberg and Quinn (1992) suggest that being able to deal with cognitive complexity assists leaders understand their roles. Thus, behavioural complexity connotes action

as well as cognition.  In other words, effective leaders need appropriate cognitive skills to understand and use an extensive range of behaviours.  There is evidence that leaders who can handle high levels of cognitive complexity use a broader range of leadership behaviours, are more capable, make more use of feedback, tend to receive feedback, tend to receive more favourable ratings, and lead more effective groups (e.g., Merron, Fisher, & Torbert, 1987; Streufert & Castore, 1971).  While cognitive complexity is a determinant of behavioural complexity, leaders need to assess when it is appropriate to use particular behaviours in their repertoires which is termed behavioural differentiation.

**Behavioural Differentiation**

Hooijberg (1996) suggests that the range of a leader's repertoire is a necessary but not sufficient condition for effectiveness.  In addition to broad behavioural repertoires, leaders need to apply appropriate responses to particular situations. The concept of behavioural differentiation refers to the extent to which leaders can vary the performance of leadership functions and therefore, captures the importance of variability or flexibility. Leaders demonstrate behavioural differentiation when they tailor leadership behaviours by making appropriate responses in diverse social situations (Zaccaro, Gilbert, Thor, & Mumford, 1991).   In other words, leaders who draw on broad behavioural repertoires and vary the application of behaviours in their repertoires depending on whether they interact with their subordinates, peers, or superiors perform more effectively (Hooijberg & Schnieder, 2001).  For example, leaders must be able to communicate visions, establish goals, monitor progress, and motivate subordinates to achieve results. Consequently, leaders need to demonstrate flexibility in dealing with others by adjusting to the demands of the social environment − referred to as 'social cognition' (Mumford, Zaccaro, Harding et al., 2000).  In other words, implementation of plans occurs within a social context.

Hooijberg (1996) has attempted to operationalise differentiation. While he has asserted that behavioural differentiation would have a positive association with leader effectiveness, he found mixed support for this relationship.   The results of his investigations indicated that there was a positive relationship between differentiation and perceptions of leader effectiveness by superiors, but leaders were perceived as less effective by their subordinates and peers when leaders demonstrated greater

behavioural differentiation. The results may relate to individual expectations of consistent leader behaviour. Staw and Ross (1980) conducted an experiment which demonstrated that administrators were considered more effective when they followed consistent courses of action. Consequently, variations in a leader's behaviour may be interpreted by subordinates and peers as inconsistent behaviour and be seen in a negative light, while superiors consider the variation to be consistent with their assessment of the demands of the situation. Although leaders may understand and appreciate the differences in subordinate and superior expectations, this does not guarantee that leaders can act in such a behaviourally differentiated way to satisfy variation in expectations (Boal & Hooijberg, 2001).

**Behavioural Flexibility**

Behavioural differentiation is closely linked to behavioural flexibility. According to Hall, Workman, and Marchioro (1998), behavioural flexibility emphasises interpersonal aspects of behaviour and involves acting differently yet appropriately in different situations. Flexible leaders have the social knowledge and perceptiveness to match their behaviour with situational demands (Boal & Whitehead, 1992). The more flexible leader is one who is capable of showing a wider range of situation-appropriate behavioural responses, both positive and negative (Paulhus & Martin, 1988). Behavioural flexibility requires the leader to display openness and tolerance in the face of social uncertainty and ambiguity (Zacarro, 2002), and relies on the leader demonstrating a range of social performance skills such as negotiation, conflict management, coaching, and persuasion (Zaccaro, 1999).

Studies have shown that people who are more behaviourally flexible are perceived as leaders (Cronshaw & Ellis, 1991; Hall et al., 1998; Kent & Moss, 1994). In a study conducted by Zaccaro, Foti, and Kenny (1991) where participants were rotated through multiple group situations, participants who emerged as leaders displayed substantial behavioural flexibility and were capable of changing behaviours in accordance with the demands of the situation.

Measures of self-monitoring have been used to operationalise behavioural flexibility (Anderson & McLenigan, 1987; Ellis, Adamson, Deszca, & Cawsey, 1988; Ellis & Cronshaw, 1992). High self-monitors appear to be more aware of which behaviours

are socially appropriate for a given situation, and are more capable of modifying their behaviours to meet the demands of a particular situation. Dobbins, Long, Dedrick, and Clemons (1990) found that high self-monitors emerged more frequently as leaders, while Zaccaro, Foti, et al. (1991) found that high self-monitors were rated more favourably by their subordinates than low self-monitors. A study by Cronshaw and Ellis (1991) showed that high self-monitors relied more on social cues about the appropriateness of exhibiting leader behaviours than low self-monitors. Finally, research has shown that high self-monitors differ from low self-monitors on a number of behaviours linked to leadership, including adaptiveness to new situations (Snyder, 1979), communication effectiveness, and persuasive ability (Sypher & Sypher, 1993).

**Leader Effectiveness and Complexity**

Leaders who perform multiple leadership roles score higher on leadership effectiveness than leaders who utilise only a limited range of roles (e.g., Denison et al., 1995; Quinn, Spreitzer, & Hart, 1991). Hart and Quinn (1993) found that behavioural repertoire impacts on both leader and organisational effectiveness. However, leaders need more than the ability to perform multiple leadership functions, they also need to be able to select the appropriate roles for the situation. To do so, leaders need both cognitive and behavioural complexity and flexibility (Boal & Whitehead, 1992). In other words, effective leadership requires leaders to not only conceive and perform multiple and at times contradictory roles, but also to adjust personal approaches to the actions of others (Kenny & Zaccaro, 1983). In a study of behavioural complexity among company commanders who participated in combat training exercises at the U.S. Army's National Training Center, Bullis, Phillips, and Boal (1993) found that behavioural complexity affects organisational effectiveness indirectly through leader effectiveness.

In an attempt to integrate leader cognitive, social, and behavioural complexity, Hooijberg, Hunt, and Dodge (1997) proposed the Leaderplex Model. The model depicts the cognitive and social determinants of behavioural complexity and the authors review previous research in each of the contributing areas. The model suggests that as leaders move up the hierarchy, the number of required cognitive, social, and behavioural elements (differentiation) increases as well as the potential connections among these elements. This proposition is consistent with Stratified

Systems Theory (Jacobs & Jaques, 1987;, 1990; Jaques, 1978; Jaques & Clement, 1991; Lewis & Jacobs, 1992).  For example, a recent study of top-level executives (Densten, Sarros, & Gray, 2002), supported the finding that leadership skills vary according to the strata at the highest levels in organisations.  The study examined the leadership behaviours of chief executive officers, executives, and upper middle executives in Australian organisations (N=1918) and concluded that different transformational leadership behaviours augment transactional leadership behaviours at different levels in terms of their impact on leader effectiveness.  Although the Leaderplex Model provides a holistic perspective by integrating the three aspects of complexity, further development and testing is required to validate the model.

A potential shortcoming of the Leaderplex Model is that it fails to take into account other aspects of complexity in investigating leader effectiveness.  For example, the complexity of the emotional relationship between military leaders and their subordinates needs to be taken into consideration given that military personnel are expected to perform under conditions likely to evoke high emotions such as anxiety and fear (Morrison & Fletcher, 2002). Failure to recognise the emotional components of behavioural complexity may result in an under-estimation of the true complexity of a situation (Denison et al., 1995).  For example, Schwarz (1990) suggested that emotions provide cues to cognitive processing, and according to Goleman (1995), using emotions allows leaders to understand and motivate others, and to engage in multiple perspectives.  Consequently, organisations, teams, and individuals stand to benefit from selecting leaders who demonstrate emotional intelligence (Caruso, Mayer, & Salovey, 2002).

**Strategic Leadership and Complexity**

Leadership at the highest levels of organisations is focused more on leadership *of* organisations than leadership *in* organisations (Dubin, 1979).  According to Jacobs and Jaques (1987), leaders undertaking strategic tasks need to understand the broader political, economic, socio-cultural, technological, and informational environment in order to envision future goals or end-states.  Upper Echelon Theory (Hambrick & Mason, 1984) suggests that the specific knowledge, experience, values, and preferences of leaders in the top echelons of organisations influence their assessment of the environment and the strategic choices they make.

Objectives become more ambiguous and uncertain for leaders as they are promoted to higher levels in the organisational hierarchy. At the highest levels, senior leaders "must conceptualize and construct robust organisations that can withstand the rigours of yet unknown events" (Hammond, 1998, p. 7). Activities associated with strategic leadership include: Determining the intent of the mission, making strategic decisions, developing key competencies and capabilities, developing organisational structures, processes and controls, selecting and developing the next generation of leaders, sustaining an effective organisational culture, and creating and communicating a vision of the future (Boal & Hooijberg, 2001; Hickman, 1998; Hunt, 1991; Ireland & Hitt, 1999; Zaccaro, 1996). The vision creates both chaos by continually challenging personnel to go beyond the status quo, and order by offering a long-term direction as a beacon to guide short-term action (Nonaka, 1988). Consequently, organisations need to assess whether potential candidates for strategic roles have the conceptual capacity to grasp the complexity, scope, ambiguity, and volatility of the circumstances to make sound decisions at the strategic level (Lewis & Jacobs, 1992).

The essence of strategic leadership involves the capacity to learn, the capacity to change, and knowledge of the organisation (Boal & Hooijberg, 2001). According to Selznick (1984, p. 5), theories of strategic leadership are concerned with the "evolution of the organization as a whole, including its changing aims and capabilities." Since the environment is becoming increasingly turbulent, strategic leadership can be viewed as the creation and maintenance of the ability to learn and change. Strategic decision-making should be conceptualised as an organisation-wide phenomenon (Hart, 1992). Thus, organisational flexibility is dependent on leaders in strategic roles having the cognitive and behavioural complexity and flexibility (Boal & Whitehead, 1992; Hooijberg et al., 1997; Zaccaro, 1996) coupled with an openness to accept change (Black & Boal, 1996) to achieve the organisation's objectives.

For leaders at the strategic level in organisations, Behavioural Complexity Theory augments our understanding of the influence leaders exert over their followers by taking into account the broad range of roles and skills required at these levels. For example, without well-developed behavioural skills, the leader's vision would remain nothing more than a concept. Behavioural Complexity Theory provides a contrast to the

traditional studies of leadership which have focused on the influence of leaders on followers (e.g., Bass, 1990; Yukl, 1994) and followers' perceptions of leadership (Conger & Kanungo, 1998; Hall & Lord, 1995). Traditional theories of leadership where the focus is on vision, charisma, and transformational leadership describe leadership styles which provide insight into underlying leader capacities. Behavioural Complexity Theory complements and extends the traditional theories by focusing on a leader's capacity to select the most appropriate behavioural responses. Such understanding can assist in the clarification of leadership behaviours at the apex of organisations.

**Practical Implications of Behavioural Complexity**

Behavioural Complexity Theory provides a useful frame of reference for understanding how leaders deal with the increasing complexity evident in both the internal and external environments. Leadership of diversity and virtual teams provides relevant examples of the challenges presented by the blurring of the distinction between the demands of the internal and external environments.

**Leadership of Diversity**

*Leadership diversity* refers to leadership by diverse leaders and of diverse followers (Morrison, 1992). Operations combining military, civilian, and multinational efforts have brought increased diversity of personnel which presents one of the most critical challenges for leaders in military organisations. Research has shown that cultural heterogeneity among management teams in multinational corporations can improve performance without a loss of cohesion (Elron, 1997). Failure to manage diversity effectively may raise leader and follower stress levels (Offermann & Phan, 2002). Andre (1995) used the term *diversity stress* to refer to the negative feelings that can occur when personal resources are inadequate to understand and respond effectively in multicultural environments.

Behavioural complexity provides a natural fit for leadership of diversity because of the complexity inevitably associated with leading a diverse group (Chen & Van Velsor, 1996). Scandura and Lankau (1996) and Hooijberg and DiTomaso (1996) maintain that leaders need to have appropriate social knowledge and behavioural repertoires to function effectively with diverse groups. According to Chen and Van

Velsor (1996), the skills required do not come naturally to all leaders. Cognitive and behavioural competencies could enhance flexibility and adaptability of the leader in attempting to meet the complex demands of diversity. Above all, leaders will need to take on the roles of cultural integrator and consensus builder as well as develop trust to lead heterogeneous groups.

**Leadership of Virtual Teams**

Changes in information technology have meant that military leaders are more likely to be physically and socially distant from their subordinates. In addition, Shamir and Ben-Ari (1999) suggest that the high level of connectivity afforded by new technologies increases the possibility of surveillance and control by and of military commanders at all levels and certainly exacerbates information overload and environmental complexity. In a recent study of physically dispersed teams (Kayworth & Leidner, 2002), effective leaders displayed broad behavioural repertoires which included task (e.g., role clarity and communication) as well as relationship (e.g., mentoring, understanding, and attitude) activities. Effective leaders simultaneously demonstrated the abilities to be assertive and authoritative without being perceived as overbearing or inflexible while still remaining understanding and empathetic toward team members. Conversely, less effective leaders did not exhibit the ability to simultaneously carry out potentially competing roles. Similarly, in terms of the military, Hammond (1998) suggests that as the most senior leaders are removed from the details of execution of a task, effective leaders need to develop relationships of trust and mutual confidence with their subordinates so that tasks are executed without the leader being present. Overall, the findings suggest that leaders of virtual teams require high levels of behavioural complexity.

In conclusion, Behavioural Complexity Theory provides a useful approach to further understanding of military leadership in a paradoxical environment. Behavioural complexity is the ability of leaders to act out cognitively complex strategies by drawing on a broad behavioural repertoire in a highly integrated and complementary way. The combination of cognitive, behavioural, and social competencies together with an ability to learn from novel experiences gives leaders a significant advantage and allows them to contribute to organisational effectiveness. The next section

presents the Competing Values Framework as a model for conceptualising and measuring leader behavioural complexity in relation to organisational effectiveness.

**The Competing Values Framework[2]**

The Competing Values Framework (Quinn, 1988) was derived from the Competing Values Model (Quinn & Rohrbaugh, 1983) which examines dimensions and values that underpin organisational effectiveness. The Competing Values Framework was developed to specify the criteria of organisational effectiveness and has been used to study many organisational aspects such as leadership roles and effectiveness, organisational culture, change, development, and human resource development (Cameron & Freeman, 1991; DiPadova & Faerman, 1993; Quinn & Kimberley, 1984; Zammuto & Krakower, 1991). Other studies have investigated organisational culture and strategy (Bluedorn & Lundgren, 1993) and the application of the Competing Values Framework for assessing corporate ethical codes (Stevens, 1996).

The Competing Values Framework suggests two underlying dimensions of organisational effectiveness: The first dimension differentiates effectiveness criteria in terms of an internal focus versus an external focus, while the second dimension contrasts criteria concerning structure: predictability/control versus flexibility/spontaneity as illustrated in Figure 1. The internal versus external focus dimension distinguishes between satisfying such internal effectiveness criteria as personnel morale, command practices, operations readiness, and progress of operations, and satisfying external effectiveness criteria such as ability to undertake traditional missions and operations other than war (e.g., peacekeeping missions and service to civilian organisations). The control versus flexibility dimension distinguishes between actions focused on goal clarity and efficiency, and actions focused on being adaptive to people and the external environment.

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[2] Adapted from Cameron & Quinn (1999); Hooijberg (1996), Hart & Quinn (1993); Kalliath, Bluedorn, & Gillespie (1999); and O'Neill and Quinn (1993).
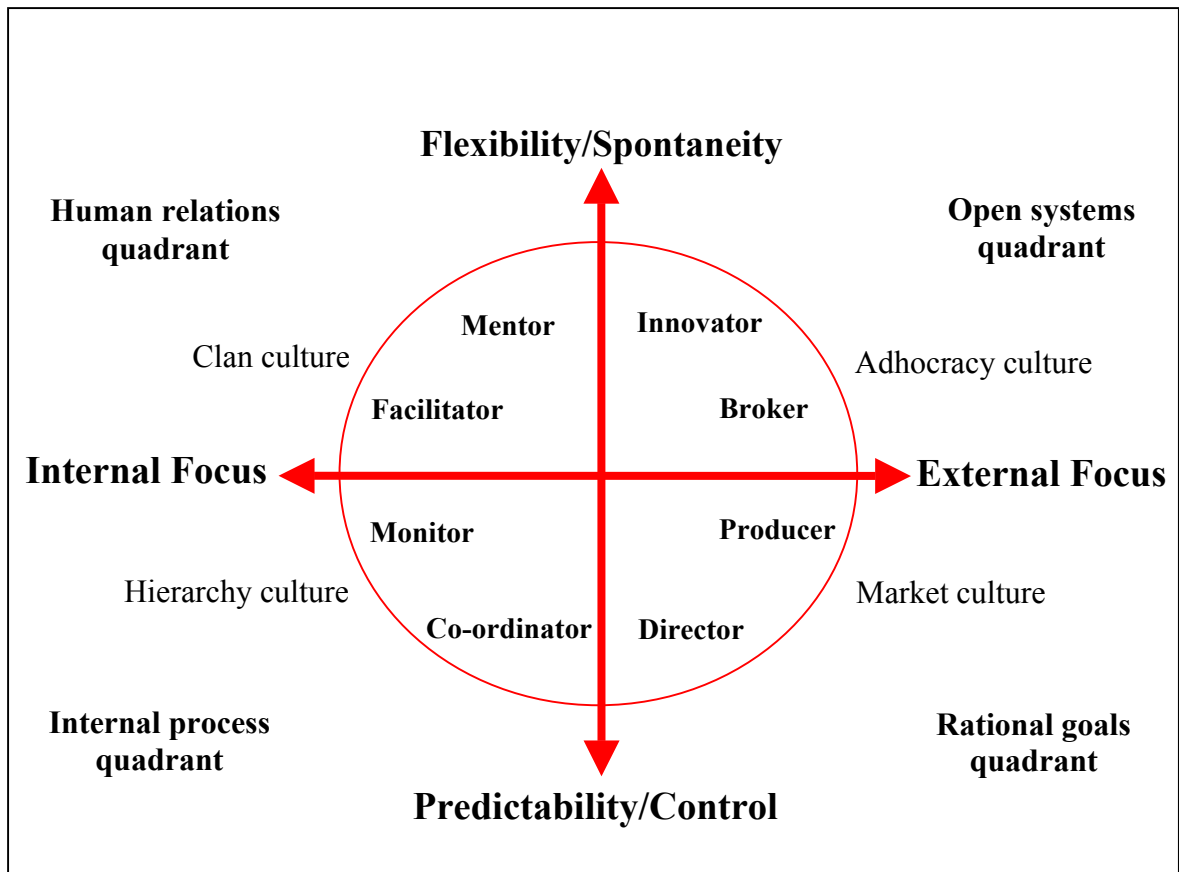
Figure 1: The Competing Values Framework:  Leadership Roles and Organisational Cultures[3]

The Competing Values Framework is so named because the underlying dimensions present contrasting values. For example: Organisations need to be adaptable and flexible, but also stable and controlled. There needs to be growth, resource acquisition, and external support but also tight information management and formal communication. The framework suggests an emphasis on the value of human resources, but also an emphasis on planning and goal setting.  There is evidence from recent studies that more effective leaders and organisations are able to balance all of the conflicting demands, suggesting that high performance requires the simultaneous mastery of seemingly contradictory or paradoxical capabilities.

Taken together, the two dimensions create four quadrants of values.  The values of each quadrant complement those of the adjacent quadrant and contrast with the values

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[3] Adapted from Quinn, R.E. (1988). *Beyond rational management*.  San Francisco: CA, Jossey-Bass, p. 48.

of the opposite quadrant. The four competing values quadrants represent four sets of values that guide organisational tasks of environmental management and internal integration. Every organisation expresses the values in each quadrant to some extent creating a values profile (Quinn, 1988). All organisations develop combinations of the four quadrants, with one or two quadrants often becoming more dominant than others (Denison & Spreitzer, 1991a; McDonald & Gandz, 1992).

**The Four Quadrants of the Competing Values Framework**[4]

Each quadrant has been given a label to distinguish its most notable characteristics. The upper left quadrant, referred to as the *human relations* perspective emphasises people leadership functions such as trust and belongingness. The target outcomes of this perspective are: Cohesion, participation, openness, morale, and commitment. The emphasis is on flexibility and an internal focus. Information sharing and participative decision-making are encouraged. Individuals are seen as co-operating members of a common social system or *clan* which is held together by a sense of affiliation and belonging.

The upper right quadrant, referred to as the *open systems* perspective emphasises adaptive leadership functions. The target outcomes of this perspective are innovation, adaptation, growth, external support, and resource acquisition. The emphasis is on flexibility and an external focus as well as innovation and creativity. Individuals are not controlled but inspired, and motivation is seldom an issue as they feel fully committed and challenged. These adaptive *adhocracies* function best when the task is not well understood and when there is great urgency about completing it.

The lower right quadrant, referred to as the *rational goal* perspective emphasises task leadership functions. The target outcomes of this perspective are planning, direction, goal clarity, productivity, efficiency, and accomplishment. The emphasis is on predictability and an external focus. Individuals are instructed by a decisive authority figure and are rewarded if they perform well. These *market* type organisations value competitiveness and productivity.

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[4] Adapted from Cameron and Quinn (1999); Hooijberg (1996), Hart and Quinn (1993); Kalliath, Bluedorn, and Gillespie (1999); and O'Neill and Quinn (1993).

The lower left quadrant, referred to as the *internal process* perspective emphasises stability and control. The target outcomes of this perspective are information management, documentation, stability, routinisation, centralisation, continuity, and control. The emphasis is on predictability and an internal focus where individuals are given well-defined roles and are expected to follow rules that outline what they should do. The major reward for individual effort is job security. In a *hierarchy* internal control is maintained by rules, specialised jobs, and centralised decisions.

Each perspective has a perceptual opposite. For example, the *human relations* perspective which emphasises flexibility and internal focus stands in contrast to the *rational goal* perspective which stresses control and external focus. Parallels among the models are also important. For example, the *human relations* and *open systems* perspectives (the upper quadrants in the model) share an emphasis on flexibility, while the *open systems* and *rational goal* perspectives (the right side quadrants) have an external focus.

**Leadership and the Competing Values Framework**

Drawing on Behavioural Complexity Theory and the Competing Values Framework, effective leadership requires a balancing and mastery of what appear to be contradictory or paradoxical capabilities such as decisiveness and reflection, broad vision and attention to detail, bold moves and incremental adjustment. In addition, Quinn, Spreitzer et al., (1991) examined the leader's style or behaviour from a paradoxical perspective and concluded that effective leaders need to focus simultaneously on tasks and people and strike a balance among the various roles they play. Effective leaders are more likely to have the cognitive complexity "to understand the four contrasting mind-sets, values, or philosophies underlying each of the quadrants and to be able to integrate behaviourally the behaviours embedded in the contrasting mind-set" (Hooijberg & Quinn, 1992, p. 165). Thus, effective leaders think multi-dimensionally, and act out cognitively complex roles by playing multiple and at times competing roles in a complementary manner (Hart & Quinn, 1993; Thompson, 2000). Thus, the Competing Values Framework of leadership roles provides a model for conceptualising and measuring behavioural complexity in leaders.

**Leadership Roles within the Competing Values Framework** [5]

There has been strong support for the quadrant structure of the Competing Values Framework for distinguishing leadership roles (Hooijberg, 1996). The framework identifies eight leadership roles along the two dimensions of internal/external focus and flexibility/predictability resulting in two leadership roles in each quadrant. Each role is juxtaposed with roles on the opposite side of the model.

The upper left quadrant focuses on the people issues of the organisation and is characterised by a flexible orientation and a focus on the internal functioning of the unit. The two leadership roles in this quadrant are the facilitator and mentor roles. *The facilitator* encourages the expression of ideas, seeks consensus, and negotiates compromise. As a facilitator, the leader fosters collective effort, builds cohesion and teamwork, and manages interpersonal conflict. The *mentor* is aware of individual needs, listens actively, is fair, and attempts to facilitate the development of individuals.

The mentor role[6] is particularly important in military organisations for building cohesion with purposeful attention to forming, enriching, and sustaining teams. The leader's aim is to encourage group members to see their involvement in the team as having meaning and value that is more important than their own self-interest. The leader is responsible for instilling lessons from the past and for creating a climate that supports initiatives and underwrites honest mistakes. A "zero-defects" atmosphere stifles learning and reduces performance proficiency to a level that only maintains the status quo. Mentoring also involves encouraging the next generation of leaders by championing their ideas, efforts, projects, and learning.

The upper right quadrant focuses on organisational adaptation and is characterised by a flexible orientation and a focus on the environment external to the unit, and emphasises developing innovations and obtaining resources for the unit. Two leadership roles are defined for this quadrant, namely the innovator and broker

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[5] Adapted from Hooijberg, 1996; Hooijberg, Bullis, and Hunt (1999); Hooijberg and Choi (2000); Quinn, Faerman, Thompson, and McGrath (1990).
[6] Adapted from Lewis, Bulter, Challans, Craig, and Smidt (2000).

leadership roles. The *innovator* is creative, and encourages and facilitates change. The innovative leader pays attention to the changing environment, identifies important trends, conceptualises and projects needed changes, and tolerates uncertainty and risk. The *broker* is politically astute, acquires resources and maintains the unit's external legitimacy through the development, scanning, and maintenance of a network of external contacts. Consequently, the leader exerts upward influence on decisions made at higher levels in the organisation.

Quinn (1996) suggested that the upper quadrants of the Competing Values Framework describe transformational leadership roles as the leader is portrayed as a motivator, attending to commitment, emphasising company values, and challenging people with new goals. In addition, the leader is a vision setter, focusing on the purpose and direction and communicating a sense of where the organisation will be over the long term.

The right lower quadrant focuses on determining and accomplishing the organisation's tasks and is characterised by a control orientation and a focus on the environment external to the unit. The two leadership roles in this quadrant are the producer and director roles. The *producer* is task oriented and work focused and has high levels of interest, motivation, energy, and personal drive. Leaders in the role of producers drive themselves and their teams unrelentingly toward a stated objective to achieve the completion of the unit's task. The *director* emphasises setting and clarifying goals by defining problems, selecting alternatives, defining roles and tasks, generating rules and policies, and giving instructions. The director role meshes well with the notion that "leaders foster cohesion by ensuring that soldiers understand the unit's mission and its importance in the larger picture of national defense" (United States Army, 1994, p. 17). People who excel at the director role are often highly competitive, decisive, and make their expectations clear.

The left lower quadrant focuses on maintaining the stability of the organisation and is characterised by a control orientation and a focus on the internal functioning of the unit. In other words, the leader brings a sense of order into the unit. The two leadership roles in this quadrant are the co-ordinator and monitor roles. The *co-ordinator* maintains structure, does the scheduling, co-ordinating, and problem

solving, and sees that rules and standards are met. People who excel in this role are dependable and reliable. The *monitor* collects and distributes information, checks on performance, and provides a sense of continuity and stability. The monitor role requires the leader to pay attention to detail, to maintain control, and undertake analysis.

Quinn (1996) suggested that the lower quadrants of the framework describe transactional leadership roles as the leader is portrayed as a taskmaster attending to performance and focusing on results, and as an analyser concentrating on the efficiency of operations. However, Quinn's (1988) Competing Values Framework has one major advantage over other frameworks (e.g. transactional and transformational leadership theories) because it proposes specific relationships among the eight leadership roles. The model specifies the conceptual opposite for each role, allowing for an estimation of behavioural integration assuming that balancing conceptually contradictory leadership roles reflects a sense of integration.

The Competing Values Framework recognises that leaders often face paradoxical requirements in meeting the competing demands of stakeholders. The eight roles highlight actual ways in which leaders can deal with these competing requirements. The basic thesis of the framework is that "the test of a first-rate leader may be the ability to exhibit contradictory or opposing behaviours (as appropriate or necessary) while still maintaining some measure of integrity, credibility, and direction" (Denison et al., 1995, p. 526). Further, a study of behavioural complexity conducted by Denison et al. (1995) of 176 executives concluded that less effective leaders (as assessed by superior ratings) exhibited one central cluster of three poorly differentiated roles: Co-ordinating, producing, and directing. The results indicate that the leaders did not perform multiple leadership roles. In contrast, highly effective leaders exhibited the eight roles more clearly. Research indicates that highly effective leaders as rated by superiors, peers, and subordinates have developed capabilities and skills that allow them to succeed in each of the four quadrants (Denison et al., 1995).

In terms of military operations, directive leaders are traditionally highly regarded. Research in the military environment has shown that individual soldiers want their leaders to worry less about the human relations aspects and focus more on making

sound decisions and providing structure to their lives (Gal, 1986; Van Fleet & Yukl, 1986). In these instances, behaviours which focus more on roles concerning internal processes (i.e., monitor and co-ordinator roles), and the roles in the rational goals quadrant (i.e., producer and director roles) take precedence. However, Van Fleet and Yukl (1986) argue that human relations behaviours are also necessary over an extended period because of the pressure experienced from prolonged exposure to stress, fatigue, and fear. Consequently, the human relations roles of mentoring and facilitating must also be emphasised.

Quinn (1988) argues that the Competing Values Framework has a dynamic focus. In other words, a leader engages in behaviours from various quadrants depending on the circumstances. Similarly, military leaders need to change their behaviours as they face different situations. Further, Quinn argues that the optimal profile for a leader is the demonstration of a high level of all behaviours included in the framework. However, a differentiating assumption of Quinn's model is that a leader need *not* be high on every role at all times.

**Organisational Culture and the Competing Values Framework**

The Competing Values Framework has been used to provide insights into the role of values in organisational culture. Culture sums up the way an organisation functions (Gray, Densten, & Sarros, 2003) by defining the core values, assumptions, interpretations, and approaches that characterise the organisation. The military require a systematic way of evaluating the culture of their operational units in terms of strengths and weaknesses in order to plan effective change strategies. Lack of attention to the organisation's culture can mean strategic initiatives are likely to fail (Jones & Redman, 2000). In addition, successful strategic implementation requires a strong fit between strategy and culture (Barney, 1986; Fiol, 1991).

The Competing Values Framework utilises the same dimensions and quadrants for both leadership and culture to provide a unifying model. In terms of analysing organisational cultures, the Competing Values Framework labels each of the four quadrants to distinguish its most notable characteristics to reflect the dominant values associated with different forms of organisations. The upper left quadrant is referred to

as the *clan* culture, the upper right the *adhocracy* culture, the lower right the *market* culture, and the lower left the *hierarchy* culture (Quinn & Cameron, 1998).

**Organisational Culture and Effectiveness[7]**

Research has identified that different types of culture lead to different forms of effectiveness (Cameron & Freeman, 1991; Deal & Kennedy, 1982; Denison, 1990; Denison & Spreitzer, 1991b; Lairy, 1994; Lau & Ngo, 1996; Saffold, 1988). In terms of the Competing Values Framework, the criteria of effectiveness most valued in a predominantly clan culture include cohesion, high levels of employee morale, and teamwork; in an adhocracy culture, the criteria of effectiveness are creative solutions to problems and cutting-edge ideas; in a market culture: Achieving goals and outpacing the competition; and in a hierarchy culture: Efficiency, timeliness, smooth functioning, and predictability.

Organisations are seldom characterised by a single cultural type. Instead, an organisation tends to represent a combination of different cultures, with one or more dominating. Organisations tend to develop a dominant organisational culture over time as the organisation adapts and responds to the challenges and changes in the environment (Sathe, 1983; Schein, 1985). Surveying organisational members can determine the characteristics evident according to the four quadrants. The results are plotted on a chart to produce a visual representation of the current and desired culture profiles. Survey feedback allows the culture change process to be transformed into an action research process based on the members clarifying what the desired culture means, the benefits, and the proposed changes to ensure the development of the desired culture (Hooijberg & Petrock, 1993).

Yeung, Brockbank, and Ulrich (1991) found that organisations with profiles which were considered the most balanced and had high scores across the four cultural quadrants, labelled *strong comprehensive cultures* were the highest performers. In contrast, cultures which were the most imbalanced tended to emphasise hierarchical values at the expense of other values and were poorer performers. Denison and Spreitzer (1991a) suggested that in organisations where the values in one quadrant

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[7] (Cameron & Quinn, 1999)

were overemphasised, the organisation could become dysfunctional. For example, too much flexibility or spontaneity could lead to chaos; too much order and control could result in rigidity; an overemphasis on control and co-ordination could produce stagnation, loss of energy, and abolition of trust and morale (Quinn & Kimberley, 1984). In other words, the strength of one quadrant may become a weakness for the organisation by blinding leaders or limiting their ability to satisfy other values. Cultural imbalance, specifically an over emphasis on the internal process quadrant (a hierarchy culture) tends to be associated with lower quality of life for employees as measured by satisfaction with the job, supervisors, pay, and life satisfaction (Quinn & Spreitzer, 1991).

The strength of culture and congruence or fit among the elements can lead to high levels of effectiveness and excellence (Deal & Kennedy, 1982; Peters & Waterman, 1982). However, in a non-military study which examined cultures of 334 institutions of higher education, Cameron and Freeman (1991) found that there were no significant differences in organisational effectiveness between those organisations with congruent cultures and those with incongruent cultures, or between those with strong cultures versus those with weak cultures. More recently, a study of organisational culture in hospitals revealed that congruence effects were relatively unimportant in explaining organisational commitment and job satisfaction (Kalliath, Bluedorn, & Strube, 1999). Consequently, despite the emphasis in the literature on the importance of cultural strength and congruence for organisational effectiveness (e.g., Kotter, 1980; Schein, 1985), the overall cultural profile appears to be more important in accounting for effectiveness than congruence or strength of the culture.

In a study of U.S Air Force Commands, Buenger, Daft, Conlon, and Austin (1996) examined the application of the Competing Values Framework to patterns of values in the organisation. The results suggested that values in all four quadrants were evident but the four quadrants were not emphasised equally. Contrary to expectations, all values were positively correlated, that is, there was a significant positive association between the values of the internal process quadrant (the dominant quadrant) and the values in all other quadrants. This trend suggested that the military organisation examined had a balance of contrasting concerns. Buenger et al. (1996, p. 569) provided an interpretation of the results in terms of the state of readiness in Air Force

units. The researchers suggested that in peacetime when Air Force units work toward military preparedness within federal budget constraints, the internal process values which represent efficiency take precedence. Other values such as those associated with the human relations quadrant may not be as strongly associated with a mission of preparedness because "personnel are plentiful and the threats to the system are not imminent as they are in combat." Alternatively, the dominance of the internal process quadrant may indicate that values in other quadrants have been largely satisfied. These explanations may be unique to the air force and the particular unit examined, and may not necessarily apply to other military organisations.

The Competing Values Framework and the resulting cultural profiles provide a straightforward way to model the complexity of organisational culture which practitioners can use for diagnosis and intervention in organisations (Brown & Dodd, 1998; Quinn & Spreitzer, 1991). For example, profiles can identify imbalances and individuals can create an ideal profile for their organisation. Comparison of the current organisational profile with the ideal can generate discussion concerning strategies for improvement and growth for each of the four quadrants (Cameron & Quinn, 1999). The critical tasks to be accomplished by the organisation determine the relative balance of the cultural profile (Goodman, Zammuto, & Gifford, 2001). Constructing organisational profiles is particularly relevant for organisational understanding of human resource management, quality initiatives, and planning and undertaking change and development.

**Human Resource Management and the Competing Values Framework**

Several studies have used the Competing Values Framework to examine the impact of culture on organisational issues (Goodman et al., 2001; McDermott & Stock, 1999; Ulrich, 1995). In a study of how differences in organisational culture profiles as measured by the Competing Values Framework affected quality of work life in hospitals, Goodman et al (2001) concluded that organisations that emphasise the values associated with the human relations quadrant (the clan culture) have a better quality of work life. In contrast, in organisations where hierarchical cultural values dominated, there was reduced organisational commitment, job involvement, empowerment, and job satisfaction, and significantly greater intent for staff turnover.

According to Cameron and Quinn (1999), effective HR practices require that aspects of each of the four quadrants are represented in the organisation. For example, building or strengthening the internal control aspects of the organisation requires an administrative specialist who focuses on reengineering processes and creating an efficient infrastructure. Strengthening the human relations aspects requires a champion who fosters commitment, cohesion, and improvements in human capabilities in the forces. Building the open systems aspects requires a change agent who facilitates transformational change and organisational renewal. Building the rational goal aspects requires human resource management to be strategic partners in the organisation, aligning HR with the strategic mission and while having regard to financial constraints of all HR activities. Overall, the framework highlights how organisational change and improvement can be fostered by human resource functions. Considering HR practices in light of the Competing Values Framework provides a way to make the HR function more strategic, more inclusive, and more rational (Cameron & Quinn, 1999).

**Quality Initiatives and the Competing Values Framework**[8]

The Competing Values Framework is a useful model for examining the implementation of quality initiatives. A large percentage of total quality programs fail; either quality does not improve, or the initiatives are abandoned after a short time. As many as three quarters of all reengineering, total quality management (TQM), strategic planning, and downsizing efforts have failed or created serious problems (Cameron, 1997). Two of the major reasons for these failures are partial deployment and failure to integrate quality initiatives with cultural change. Partial deployment means that a limited number of aspects are implemented. For example, some organisations implement new statistical controls or redesign processes to prevent defects, but little else changes.

The Competing Values Framework highlights a more comprehensive set of factors that need to be taken into account when implementing quality initiatives. For example, to foster the highest levels of quality programs, military organisations need to focus

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[8] Adapted from Cameron and Quinn (1999)

beyond internal control processes. Successful implementation requires attention to human relations activities such as teambuilding and effective communication, rational goal activities such as improving productivity and creating partnerships with suppliers and stakeholders, and open systems activities such as creating new standards of performance. Therefore, quality initiatives require an integrated approach drawing on functions from all four quadrants in terms of the Competing Values Framework.

**Organisational Change and Development**

Paradoxically, culture creates both organisational stability and adaptability. "Organizations must balance the tendency toward stability, brought about by prior investments, interdependencies among systems, and people's habits, with the need for change to cope with shifts in the environment, technology, and available resources" (Mumford, Zaccaro, Harding et al., 2000, p. 13). Attempting to deal with the ever-increasing complexities of the environment by changing organisational culture is a difficult process as personnel are often reluctant to change the processes, structures, and tasks that have contributed to the organisation's past success (Hooijberg & Petrock, 1993). Leading change is the conscious "nudging" of individuals and groups away from one state of affairs toward another (Gregersen, Morrison, & Black, 1998). Leadership theories emphasise the role of the leader as an agent or initiator of change (Reeves, Duncan, & Ginter, 2000), but influencing people to change customary ways of behaving presents a significant test for leaders. Consequently, changing the culture of an organisation can be viewed as a major leadership challenge (Schein, 1992).

Leaders with large behavioural repertoires who are able to select behaviours that are appropriate for particular situations, are more likely to create effective change than leaders who have a small repertoire and who apply behaviours indiscriminately (Hooijberg & Quinn, 1992). The approach goes beyond the common prescription for change of advising leaders to create a vision for the future and to clarify the organisation's values. Thus, the framework suggests that change requires the simultaneous emphasis on more participation, more creativity, more efficiency, and more goal setting (Hooijberg & Petrock, 1993). Further, the Competing Values Framework links individual development to organisational change where organisational effectiveness is seen as the growing capacity to meet conflicting goals. This approach provides a more appropriate foundation for leadership development

programs and goes beyond the charismatic and transformational leadership approaches which emphasise how leaders exercise direct interpersonal influence. These theories have merit but are limited in their recognition of the depth and complexity of thinking required for leading organisational change (Day, 2001).

The Competing Values Framework has been used to analyse changing approaching to organisational development. Mirvis (1988; 1990) suggested that organisational development practices which commenced in the 1960s were consistent with the human relations (upper left) quadrant. The evolution toward a greater concern for structure and task orientation can be represented by the lower half of the model. The more recent shift to a concern with the implications of changes in the external environment of the organisation is consistent with the upper right quadrant of open systems. In summary, organisational development has been described as attempting to move entrenched bureaucracy and control systems in the direction of human relations, task achievement, and adaptations to the environment. Finally, the contemporary organisational development approaches suggest that there needs to be an integration of perspectives derived from paradoxical theories, such as the Competing Values Framework to assist organisations with internal maintenance and external positioning which emphasise flexibility and control (Denison & Spreitzer, 1991a).

**Leadership Development and the Competing Values Framework**

The Competing Values Framework has been used to assist organisational members to understand the similarities and differences of leadership roles at various levels of a hierarchy (DiPadova & Faerman, 1993). Adopting a single framework of performance across the organisation clarifies the transition from one level to the next and enables role differentiation in various contexts. Information on the differing requirements for current and previous positions can assist in the identification of the new behaviours that need to be learned as well as the behaviours which are no longer appropriate in the new position. For example, all leaders have opportunities to perform the co-ordinator role but the tasks and responsibilities of a major as co-ordinator differ from the tasks and responsibilities of a colonel as a co-ordinator. The process depends on identifying the leadership knowledge, tasks, abilities, and personal characteristics

needed at each level.  The use of a common language to describe tasks and leadership roles should reduce barriers which may create misunderstandings among leaders.  Consequently, the framework can provide a unifying model to assist leader development by encouraging leaders to acquire capabilities and to think and act in new ways.

**Leadership and Leader Development**

Day (2001) distinguishes between *leadership* development, the building of capacity in anticipation of unforeseen challenges, and *leader* development where the emphasis is on individual-based knowledge, skills, and abilities associated with formal leadership roles. Leadership development can be viewed as expanding the collective capacity of organisational members to engage effectively in leadership roles and processes (McCauley, Moxley, & Van Velsor, 1998).  Leadership development involves building the capacity for groups of people to learn their way out of problems that could not have been predicted (Dixon, 1993).   In this sense, capacity is similar to the notion of cognitive and behavioural complexity in that expanded capacity provides for better individual and collective adaptability across a wide range of situations (Hooijberg et al., 1999).

**The Development of Problem-Solving Skills**

McGee et al., (2000) distinguish between two distinct systems in the military which have consequences for problem-solving and leadership development.   Firstly, technology-dominated systems focus on specific activities where equipment-operating requirements are very precise and inflexible.  Problem solving tends to be highly structured, requiring personnel to have specific knowledge and to draw on rules, checklists, and procedures.  Training tends to emphasise "what to think" and relies on memory processes.  The technology-dominated system largely corresponds to the lower quadrants in the Competing Values Framework where the focus is on structure and predictability.   In contrast, human-ascendant systems typically focus on objectives to be achieved where judgements and the application of general principles are required.  Problem solving in human-ascendant systems relies on sophisticated cognitive processes and there is generally more than one solution.  Development of these skills emphasises "how to think".   The human-ascendant system largely corresponds to the upper quadrants in the Competing Values Framework where the

focus is on spontaneity and flexibility. Most leadership tasks, particularly at the strategic level are viewed as human-ascendant as they are unstructured and require the leader to perceive the end-state that represents the solution to the problem.

Various approaches are required to develop excellence in these different systems. Skill development in technology-dominated systems depends more on knowing, understanding, and application. In human-ascendant systems, analysing, synthesising, and evaluation may be more important. The different approaches are consistent with the distinction between training and education. Training has been seen as a predictable response to a predictable situation, while education is a "reasoned" response to an unpredictable situation which requires critical thinking to deal with the unknown (Haycock, 2002).

The distinction between the two systems has implications for successfully dealing with increasing complexity. Personnel who undertake training that equips them to excel in a technology-dominated system may not have had the opportunity to develop the cognitive capacity required to cope with the increasing complexity and the additional responsibilities that accompany promotion to higher positions. Consequently, early training needs to incorporate programs which provide experience in unstructured problem-solving which could assist in the development of cognitive capacity.

McGee et al. (2000) argue that the success of technology-dominated training has biased the culture and operational practices toward memorisation of facts and less complex cognitive processes to the detriment of human-ascendant skill development. Further, the selection and promotion systems in the military tend to advance those who perform well in tasks at lower organisational levels where there is a greater emphasis on technology-dominated processes than on conceptual thinking skills. Consequently, personnel may not be appropriately prepared to deal effectively with the demands of the human-ascendant systems at higher levels where strategic thinking is required.

**Leader Development and Promotion**

Promotion decisions should not be based solely on performance in a person's current position, but rather should be based on an assessment of individual cognitive capacity and ability to handle behavioural and social complexity.  Therefore, decisions about promotion should be based on the extent to which a person has the cognitive, social, and behavioural capacity to function effectively at the next level (Hooijberg et al., 1997).  The situation raises issues concerning the development of appropriate means for the identification and retention of personnel who have the potential to develop the capacity to handle behavioural complexity.

**Recent Research on Leadership Development**

Recent research has been undertaken to optimise effective leadership development.  A longitudinal study to predict leader emergence and effectiveness of male cadets at a U.S. military academy showed that cognitive ability, physical fitness, prior influence experiences, and self-esteem predicted formal leadership attainment three years later (Atwater, Dionne, Avolio, Camobreco, & Lau, 1999).  Another study examined personality factors which predicted leadership development of Canadian Forces officer candidates and found that dominance emerged as the best predictor of leadership development four years later (Bradley, Nicol, Charbonneau, & Meyer, 2002).

More extensive studies have been conducted to further understanding of how leadership skills are acquired over the course of people's careers.  For example, Mumford, Marks, Connelly, Zaccaro, and Reiter-Palmon (2000) conducted a study to assess differences in leadership skills across six grade levels of officers in the U.S. Army.  Increased levels of knowledge, problem-solving skills, systems skills, and social skills were found at higher-grade levels which were associated with improved performance and higher quality solutions to ill-defined military leadership problems. However, different aspects of expertise and different skills appeared to be relevant for lower compared to upper level leaders. Basic technical training was more strongly related to skill increases in moving from junior to mid-level positions, while complex problem-solving and the acquisition of more advanced principles (Zaccaro, 1999) were more strongly related to increases in skill development as leaders moved from mid-level to more senior positions.  Based on these findings, Mumford, Zaccaro,

Johnson et al. (2000) concluded that exercises to develop advanced problem-solving skills would be unlikely to be of any great value early in leaders' careers when leaders lack the knowledge structures needed for effective application of these skills. However, further research is required to determine if advanced problem-solving skill development is provided to leaders at lower levels and is accompanied by opportunities to practise these skills in the field whether junior leaders are able to apply these skills effectively earlier than expected.

Development of potential leaders should focus on ensuring that personnel are given assignments to provide the appropriate learning opportunities. They should be encouraged to seek mentoring relationships and be given the chance to observe suitable role models in action. In other words, leader development is achieved by observing others, through active experimentation, and evaluation of outcomes. However, learning from experience alone limits the ability of personnel to gain a more comprehensive understanding of how their experiences are linked or are interrelated. Learning from the intellectualisation of experience (i.e., abstract conceptualisation) enables personnel to identify the interrelationships of their experiences, to generalise, and to develop theories that help explain encountered problems and possible solutions (Densten & Gray, 2001a).

Understanding leader skill acquisition can assist in devising more appropriate interventions for effective leadership development. Mumford et al. (2000) recommended that assignments providing experience in solving complex organisational problems should contribute to leadership skill development and performance. For personnel moving from mid-level to more senior positions who had developed the maturity and experience to interpret the implications of complex problem-solving exercises, such experiences were related to increases in social judgement. Mumford, Zaccaro, Johnson et al. (2000) suggest that it is important to take into consideration that leaders may develop in different ways and at different times in response to various kinds of interventions. Thus, training and development interventions need to be carefully tailored to individual and current developmental needs to optimise the effects on the acquisition of skills and expertise (Quinn, Spreitzer, & Hart, 1996; Whetton & Cameron, 1995).

**Leader Development and Self-Insight**

Self-insight has been considered the foundation for leader development as leaders have to know themselves and understand their environment in order to adapt and learn. Reflective processes encourage multiple perspectives to be generated that challenge future leaders to excel in complex and uncertain environments (Densten & Gray, 2001b). Leader development programs often include self-assessment to evaluate performance and behaviour which is then compared to evaluations by superiors, peers, and subordinates (360-degree feedback).

Comparative data generated from 360-degree feedback are important as individuals often do not have accurate self-perceptions. Poor performers tend to overestimate their performance, while outstanding performers tend to underestimate their performance (Kruger & Dunning, 1999). Leadership training and development programs that involve 360-degree feedback are useful for increasing leaders' awareness of, and sensitivity to the expectations of relevant others in the organisation (Hooijberg & Choi, 2000). The feedback, in other words, focuses attention on discrepancies as well as similarities between self and others' perceptions.

Self-insight learning is related to self-monitoring which has been used as an indicator of behavioural flexibility and has been linked to leader effectiveness (Snyder, 1979; Sypher & Sypher, 1993). Therefore, self-insight learning can assist in the development of behavioural flexibility and can strengthen the links among cognitive capacity, behavioural repertoire, and behavioural differentiation and enhance communication and performance (London & Beatty, 1993).

Cognitive capacity alone does not ensure leader success. Leaders must also have self-efficacy (the belief in self), be motivated to lead, and want power and influence. According to Sashkin (1992), a leader without a strong and mature need for power will not and cannot use social influence processes in organisations to empower members to achieve organisational goals. In other words, motives supply the energy and direction while cognitive capacity and leadership intelligence provide the means for achieving organisational goals (Winter, 2002).

**Conclusion**

Leadership is a process for achieving organisational effectiveness and readiness which presents military leaders with significant challenges as the initiators of change. Rarely does change proceed in a linear, stepwise manner.   In the current, turbulent environment, change may be viewed as a "continuous and vision-governed adaptation to external changes and emerging conditions" (Styhre, 2002, p. 343). Consequently, successful leaders need to be versatile in order to respond appropriately in different organisational scenarios (Boal & Whitehead, 1992).

The basic tenet of Behavioural Complexity Theory is that effective leaders are able to exhibit multiple, contrasting leadership behaviours in complex settings that focus simultaneously on tasks and people. In other words, leaders who can handle cognitively complex tasks and use multiple leadership roles to reconcile the competing demands of the environment are more effective. In addition, effective leaders demonstrate behavioural differentiation by being able to tailor the behaviours to particular social situations.  Further, the internal and external complexity of a military environment creates additional challenges for leaders.   For instance, situations such as leading diverse groups and virtual teams draw extensively on a leader's cognitive, social, emotional, and behavioural complexity skills.

Leaders in strategic roles require the conceptual capacity to grasp the complexity, scope, ambiguity, and volatility of the circumstances to make sound decisions so that the organisation remains robust and in a state of readiness to withstand the challenges of unknown events. To do so, leaders need to understand the tensions between internal and external demands and the need to maintain stability while creating the capacity for flexibility.

The Competing Values Framework can accommodate and visually present the tensions and paradoxes that contemporary leaders face, and the framework clarifies the complex nature of organisational effectiveness.  The framework grapples with the problem of defining effectiveness by conceptualising organisational effectiveness based on the two dimensions of internal/external focus, and stability/flexibility structure. The resulting four competing quadrants represent four sets of values that guide organisational tasks of environmental management and internal integration.  A major strength of the Competing Values Framework is that it integrates leader

behavioural complexity in relation to organisational effectiveness by identifying leadership roles along the two dimensions. The framework proposes that effective leaders deal with complexity by exhibiting contrasting behaviours derived from competing roles while still maintaining their integrity. Thus, highly effective leaders develop capabilities and skills that allow them to succeed in each of the four quadrants.

The Competing Values Framework uses the same dimensions and quadrants to analyse organisational leadership and culture to provide a multi-layered model. The framework assists in the identification of strengths and imbalances in culture as a basis for planning effective change strategies. Culture is critical for developing and maintaining effectiveness and affects the quality of work life for organisational personnel. The framework builds on the traditional notion that leaders create a vision for the future by suggesting that change is brought about by leaders strategically selecting behaviours which are underpinned by values from the four quadrants.

Leadership development should expand leaders' behavioural repertoires in association with developing the collective capacity to handle cognitive and behavioural complexity. Such skill development assists leaders make better judgements in ambiguous environments and provides for better individual and collective flexibility across a wide range of situations. Personnel who undertake training that equips them to excel in technology-dominated systems may not have the opportunity to develop the cognitive capacity required to cope with the increasing complexity and the additional responsibilities that accompany promotion to strategic positions. To meet emerging challenges, reflective learning can assist leaders acquire the relevant knowledge and skills to be effective in human-ascendant systems.

The real challenge for leaders lies in not only being able to understand the new environment and to reconceptualise the problem, but to be able to anticipate the changes required in the future (McGee et al., 2000). The combination of cognitive, behavioural, and social competencies together with an ability to learn from novel experiences can give military leaders the flexibility to facilitate to organisational effectiveness and to excel in a changing and ever more complex military environment**.**

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