INSEAD

The Business School for the World®

Faculty & Research Working Paper

Development and Application of the Leadership Archetype Questionnaire

Manfred F. R. KETS DE VRIES
Pierre VRIGNAUD
Anupam AGRAWAL
Elizabeth FLORENT-TREACY
2009/15/EFE/IGLC
(Revised version of 2007/40/EFE)

Development and Application of the Leadership Archetype Questionnaire

by

Manfred F.R. Kets De Vries*

Pierre Vrignaud**

Anupam Agrawal***

Elizabeth Florent-Treacy****

IJHRM revised and resubmitted, March 2009

Revised version of 2007/40/EFE

* The Raoul de Vitry d'Avaucourt Clinical Professor of Leadership Development, Director, INSEAD Global Leadership Center (IGLC), INSEAD, France and Singapore. Ph: +33 1 60 72 41 55, Email: manfred.kets.de.vries@insead.edu

** Professor of Work and Vocational Psychology, Université de Paris Ouest, Nanterre La Défense, Laboratoire Travail et Evolution Professionnelle, EA 3984, France. Email: pierre.vrignaud@u-paris10.fr

*** Assistant Professor, Department of Business Administration College of Business, University of Illinois at Urbana-Champaign

**** Research Project Manager at INSEAD Global Leadership Centre, INSEAD, Bd de Constance 77305 Fontainebleau Cedex, France; Ph: +33 1 60 72 41 32; Email: Elizabeth.florent@insead.edu

A working paper in the INSEAD Working Paper Series is intended as a means whereby a faculty researcher's thoughts and findings may be communicated to interested readers. The paper should be considered preliminary in nature and may require revision.

Printed at INSEAD, Fontainebleau, France. Kindly do not reproduce or circulate without permission.

Abstract

The Leadership Assessment Questionnaire (LAQ) is a 360-degree survey instrument designed to help organizational leaders identify their own style of leadership and formulate appropriate development objectives. It is designed to provide a means for developing an executive team in which multiple leadership archetypes are represented.

The LAQ is based on eight leadership archetypes—Strategist, Change-catalyst, Transactor, Builder, Innovator, Processor, Coach, and Communicator. These archetypes are representations of ways of leading in a complex organizational environment. In this article we discuss the development, design, and psychometric analysis of the LAQ. We detail the conceptual foundations of the questionnaire and the psychometric methods used to confirm the validity and reliability of the instrument. We conclude with avenues for future research.

KEY WORDS: Leadership archetype; leadership behavior; character; team; executive role configuration; leadership archetype questionnaire; 360-degree survey instrument.

Introduction

In an environment characterized by continuous and discontinuous change, the assessment of leadership potential and the development of leaders is now a top priority for every organization. Because the global work environment is becoming increasingly complex, an individualistic notion of leadership as a top-down exercise driven by one 'great man' is no longer effective in most cultures. A distributive, collective form of leadership, forged by those who know how to enlist the help of the right people at every level of the organization, has become a paradigm for building sustainable organizations (Gronn, 2002). This suggests that in order to assess leadership potential and create well-balanced executive role constellations, we need to clarify the various roles executive teams must assume to be effective in different contexts. We need to understand the interconnections between leadership behavior and character. We need insight into the qualities leaders must have to be able respond to different situations and contexts, and also to understand how complementary leadership roles interact to create effective teams.

Distributive, collective leadership: Greater than the sum of its parts

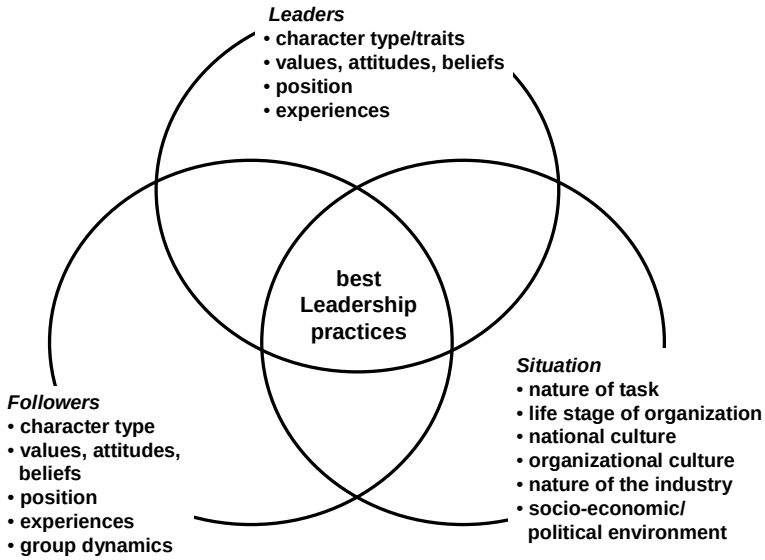
Leaders never operate in isolation; all leadership activities take place in a leader-follower context. Thus there is an intricate dynamic interface between leadership behavior and the organizational context (including the mindset of followers) in which the leader operates. What makes a specific leadership style more or less effective appears to depend on the complementarity of roles in the organization's executive team. If an executive can build on his or her strengths while the other members of the executive team compensate for his or her weaknesses, all will be well. If that is not the case—if there is incongruity between the needs of the organization and the capabilities of the individual—the mismatch can have grave consequences. The success of an organization very much depends on the effectiveness of the team.

The first step in creating effective teams is for each individual to reflect on their own preferred leadership styles—in order to understand others' behavior, we must strive to know ourselves. Taking a more emergent approach to defining leadership, we have moved away from essentialist and absolute notions of leadership (Bresnen, 1995), and

have applied a grounded interpretive approach to studying various permutations of distributive and collective leadership. Identifying winning combinations of individual personalities and behavior helps leaders to make practical decisions when forming working groups.

The interrelatedness of individuals' strengths and weaknesses (and their values, attitudes, and beliefs), the strength of a group's cohesiveness, and the situation (the nature of a task, the type of organization, corporate culture, national culture, industry factors, and the socioeconomic-political environment) are all important factors in determining which leadership practices or behaviors will be effective. Best leadership practices are those that match the specificities of the three areas of what can be called the leadership domain.

Figure 1: *The Leadership Domain*



Following the conceptualization of Boyatzis, who described the importance of fit between leadership competencies, demands, and environment (1982), we believe that an understanding of the interrelatedness of these three circles is essential when designing effective executive teams. This approach builds on the work of academics who have looked for richer descriptions of executive behavior. There has been an increasing dissatisfaction with the binary individual leader-follower paradigm (Gronn,

2002). The work of Henry Mintzberg has been highly influential in this area. Mintzberg suggested that executives simultaneously take on a variety of different roles to meet the many demands of their functions. He identified ten roles that executives commonly exercise: figurehead, liaison, leader, monitor, disseminator, spokesman, entrepreneur, disturbance handler, resource allocator, and negotiator (Mintzberg 1973). These roles are arranged into three groups: interpersonal, informational, and decisional. The informational roles link all managerial work; the interpersonal roles ensure that information is provided; the decisional roles make significant use of information. These roles can be played at different times and to different degrees by the same executive, depending on the level and function of management. They can also be carried out by a team of executives working together.

Meredith Belbin found that a team's effectiveness was very much determined by its composition. He noted how individual differences in style, role and contribution determined potential team strength. From his observations he distinguished nine team roles—shaper, implementer, completer/finisher, coordinator, team worker, resource investigator, plant, monitor evaluator, and specialist (Belbin 1996; 2003). He suggested that balanced teams, made up of people with complementary preferred styles of behavior, were more effective than unbalanced teams.

In order to help executives and HR professionals evaluate the behaviors and styles that could be considered best leadership practices in specific contexts, we decided to develop a 360-degree survey instrument that would conceptualize leadership as a distributive process characterized by *leadership archetypes*. The term 'archetype' denotes the quintessence of a specific behavior pattern, a model by which people can be described and compared. An archetype-based tool can help organizations to create teams with well-balanced leadership competencies as it gives people a practical way to implement a change in mindset from leadership as a status ascribed to one individual to leadership dispersed through the organization in the form of some, or many, individuals acting in concert. It is a way to describe, rather than prescribe, effective leadership. We started our journey toward developing the Leadership Archetype Questionnaire (LAQ) with this goal in mind.

Our work with the LAQ differs from the leadership role literature cited above in a number of ways. First, the LAQ is based on qualitative observational studies of real

organizational leaders, as described in greater detail below. In contrast to most other studies, the LAQ development and testing was done by observing and eliciting responses from people at the strategic apex of the organization (although we maintain that the conclusions are also valid for executives at senior and middle management levels.) For our work it was important that the behavioral manifestations of leadership were grounded in the reality of the executives in our leadership development programs. Second, by developing the LAQ as a 360-degree instrument, we capture the input of fellow team members in building a picture of successful leadership behavior for a particular firm (that is, not merely from the viewpoint of the leader). Finally, the LAQ provides feedback to be used as the basis of discussion and action planning around effective combinations of archetypes for specific contexts. It offers an analysis of the firm's present status (as mapped on these archetypes) and facilitates recruiting or developing leaders to fill the gaps. Thinking in terms of archetypes can help people grasp concepts that can be quite complex and apply these concepts to real world situations.

A clinical approach to understanding team effectiveness

The LAQ addresses the rise of interest in the 'inner theater' of organizational executives—that is, what makes them tick—(Dotlich *et al*., 2004; Jackman and Strober, 2003; Kets de Vries, 2001; Kilburg, 2000; Zaleznik, 1990), and is a response to the need for an instrument that captures dimensions that are specifically important for business leaders. Other existing 360-degree instruments designed to facilitate teambuilding tend to take into consideration only the surface manifestations of leadership, thus overlooking some of the psychodynamic processes that occur in individuals and groups. To address this gap, the LAQ takes a clinical orientation. This approach provides a more complete analysis of the inner theatre of leaders, as well as the confluences between individual leaders, followers, and situation in the leadership domain.

Assessing the predominant leadership behavior patterns of a top executive team with a psychodynamically-oriented 360-degree survey instrument can give team members a greater knowledge of the positive and negative aspects of each person's leadership behavior. We have consistently found that an individual's specific leadership style is

the outcome of a dynamic interpersonal process incorporating a wide array of cognitive and emotional competencies. Acquiring a degree of self-knowledge about these competencies helps individuals adjust to the demands made by followers, the industry and the external socio-economic environment. Understanding one's own archetypical behavior patterns is also the first step towards a personal change strategy. It enables the executive to take responsibility for shaping his or her own future.

As there is often a gap between the way we perceive ourselves and the way others perceive us, we saw a multiple feedback approach as necessary to the design of the LAQ. This gives managers in organizations a more accurate view of themselves (Bland *et al.*, 1994; Carlson, 1998; Church and Bracken, 1997; London and Beatty, 1993; Yammarino and Atwater, 1993, 1997). It minimizes the social desirability factor and sets the stage for greater acceptance of other people's views (Mohrman et al., 1989). The 360-degree format of the LAQ allows the individual to compare feedback reports from several different teams. This helps us put together a fuller picture of the individual in a world where teams can be fluid and virtual, and avoid some of the possible pitfalls associated with using 360-degree measurements in organizations (Peiperl, 1999).

In designing the LAQ we strove to construct a diagnostic instrument that was simple but conceptually sound. In sum, the LAQ is aimed at, and normalized with, a population of very high-level senior executives, has a psychodynamic focus, uses the multiple feedback approach, and can be used for a meaningful discussion about individual behavior as well as team composition.

Conceptualizing leadership archetypes

In studying the way executives function in teams, we identified several key questions: What are the leadership archetypes necessary for successful global leadership? What combinations of archetypes are needed to be effective in specific kinds of organizations? How do specific contexts affect leadership archetypes? To answer these questions we began with a qualitative, grounded theory building process by

which we explored in great depth the leadership archetypes that we saw in successful top executive teams.

To establish a foundation for our research, we drew on the experience of the first author, who is a psychoanalyst as well as a business school professor. Over the past 20 years he has studied the behavior of executives from all over the world in specially designed leadership seminars. These programs go beyond the superficiality that characterizes so much executive education to create a transitional space in which executives are encouraged to take the time to examine their own lives, and to give feedback and insights to one another, using their own life "case studies" as important focal points (Korotov, 2005).

Outside the classroom, working with boards of directors and other top executive teams, the first author studied their leadership-related behavior and the underlying issues relating to specific contexts. He observed executive teams in their work settings as they struggled to deal with complex organizational problems. He interviewed hundreds of senior executives about their experiences working in teams and focused on what made a team effective. The dynamics occurring in these groups, both in the classroom and in the organization, gave us further insight into person-specific leadership patterns and underlying motivations.

To derive a set of leadership archetypes, we began a phase of semi-structured interviewing of directors and senior leaders from all around the world. Over a period of three years, exploratory interviews were conducted with over 300 executives in a semi-structured fashion for the development of the LAQ. Each respondent was approached with a list of open-ended questions. Depending on the responses of the group as a whole, questions were dropped, revised or retained. Supplemental observational data was collected in the form of notes taken while studying the various executives in team settings. In the course of this fieldwork and instrument development, grounded theory was used to arrive at a set of hypothetical leadership archetypes; in other words, while engaged in the process of hypothesis-formulation, the researchers delineated connections, patterns and themes, continuously modifying their hypotheses in accordance with emerging material (Glaser and Strauss, 1967; Argyris and Schon, 1974). The observed patterns of behavior were then integrated with the findings of developmental and clinical psychologists on the functioning of

human personalities. Through this ethnographic and clinical orientation, ideas were developed and "thick" description emerged—that is, description that involved "guessing at meanings, assessing the guesses, and drawing explanatory conclusions from the better guesses," to quote Clifford Geertz (1973, p. 20). Perceptual distortions due to participant observation were also explored (Devereux, 1978; Van Maanen, 1988; Schein, 1987).

In addition, as there is often a discrepancy between self-perception and the perceptions of others on a team, the executives' own evaluations of their preferred leadership archetypes were compared with the perceptions of fellow team members from one or two core teams that they were a part of (for example, the board of directors). From the feedback it became clear that congruency existed between self-perception and the perception of others in only a minority of cases (Dalessio, A. T. 1998).

Our in-depth study of leaders *in situ* showed that there were a number of recurring patterns of behavior that underpinned their effectiveness in their organization. Conversely, we saw how a particular leadership behavior pattern that had been highly effective at one stage in a career could become increasingly dysfunctional at another stage—indicating that leadership archetypes are context specific. We also saw how it was possible for a mismatch could occur between a person's habitual way of interacting and the organization's stage of development.

After reviewing our qualitative data we began to formulate descriptions of a number of leadership archetypes. These represented prototypes, a template for interpreting observed phenomena and a way of understanding behavior. When we made these conceptualizations, however, we were not looking for total inclusion. We concentrated on frequency of patterns and included the archetypes most typically found in successful organizations.

In trying to link the leadership archetypes with character typology it has to be accepted that it is impossible to include all character types. Although individuals may have a stronger affinity for one particular archetype, it is more common for a person to possess the characteristics of a number of archetypes. In addition, it appears that different personality types may be effective within each archetype; "hybrids" are the

rule rather than the exception. People in leadership positions, or aspiring to be leaders, are a self-selected group. Some people have character types less likely to be found at senior executive level. For example, there were very few people with a self-defeating, dependent, depressive or detached personality (Kets de Vries 2006).

We selected what appeared to be the most predominant leadership archetypes among our target groups of senior executives. To triangulate our observations we presented our archetypes to a number of colleagues involved in clinical group coaching (Kets de Vries, 2005). These colleagues validated the conceptualizations and assessments. In addition, these archetypes were presented to a number of colleagues in the academic field of strategy for further validation. After this phase we retained eight major archetypes.

***Table 1: T**he eight leadership archetypes*

The Strategist—leadership as a game of chess	*Strategists* are good at dealing with developments in the organization's environment. They provide vision, strategic direction and outside-the-box thinking to create new organizational forms and generate future growth.
The Change-catalyst—leadership as a turnaround activity	*Change-catalysts* love messy situations. They are masters at re-engineering and creating new organizational "blueprints."
The Transactor—leadership as deal making	*Transactors* are great deal-makers. They are skilled at identifying opportunities, and thrive on complex negotiations.
The Builder—entrepreneurial leadership	*Builders* dream of creating new organizations, and have the talent and determination to make their dream come true.
The Innovator—leadership as creative idea generation	*Innovators* are focused on the new. They possess a great capacity to solve extremely difficult problems. They like to innovate.
The Processor—leadership as an exercise in efficiency	*Processors* like an organization to be a smoothly running, well-oiled machine. They are very effective at setting up the structures and systems needed to support an organization's objectives.
The Coach—leadership as people development	*Coaches* are very good at developing people to get the best out of them. They create high-performance teams and high-performance cultures.
The Communicator—leadership as stage management	*Communicators* are great influencers, and have a considerable impact on their surroundings.

Once we had identified the eight archetypes, to test for comprehensiveness across cultures and face validity in terms of the eight archetypes themselves, we designed

action research projects and strategic interventions to test our emerging definitions. Each project was assessed to ensure that the participants found the concepts clear from a theoretical standpoint, and that the items and archetypes added up to a relevant and practical tool for creating well-functioning teams. In parallel, we observed which archetypes seemed to be more evident in specific contexts and situations; for example, after a merger which required the integration of top executive teams from different cultures.

As a result, the LAQ is a multidimensional model. Such models have an advantage over so-called categorical models in that they encourage breadth and comprehensiveness, and allow for a rich representation of individuality rather than forcing people into specific categories. They "lose" less information than models dependent on discrete traits.

However, given the nature of human development, the dimensions are rarely independent; they build upon each other, making psychometric assessment more difficult. The most troubling limitation inherent in the dimensional approach is that while the scale gives no single dimension pride of place, test-users inevitably interpret some archetypes as being more positive than others. To minimize this problem we made an effort to present the anchor points as neutrally as possible, reminding people that being positioned on a "desirable" point on the dimension could have its downside if taken to the extreme.

Another reason that we chose a dimensional approach for the LAQ was our belief that such an instrument must be ecologically valid (Messick, 1994)—that is, its findings must be generalizable and transferable to the environment in which the tested behaviors flourish (in this case, the business environment). The interpretation of the results, and the communication of this interpretation to the person tested, is necessary to the validation process. For this reason we chose many correlated dimensions rather than fewer orthogonal ones, on the basis that the ease with which they could be understood by executives, and their relevance for personal development in a leadership context, would render them particularly ecologically valid. This is especially important to the LAQ because it is intended for use in executive training and coaching contexts. Executives sometimes fail as leaders because of their behavior toward colleagues, subordinates, bosses, and other stakeholders (Kets de Vries, 2001).

Identifying dimensions that can be an asset in particular contexts can be extremely valuable as a tool for change.

Testing and refinement of the LAQ

The final version of the LAQ itself was in development for two years. We went through three iterations before it reached its final form. It started out as a questionnaire with a large number of items for each archetype (the first tested version had 79). The instructions and items were in English, with respondents being either native English speakers or with a high level of competency in English. Sensitive to potential language and culture-based confusion, we asked our test groups to indicate any questions which they found to be unclear. After testing the questionnaire on participants, classical psychometrical analysis and exploratory factor analysis of the data allowed us to identify a clear structure giving an account of the relationships between the eight dimensions of the LAQ and to reduce drastically the number of items. In every round of development we needed to test the questionnaire on senior executives participating in scheduled programs; there was therefore an inherent delay in the process in order to ensure that the instrument was reliable. After beta-testing, we retained 48 items, spread over eight scales with six items each. A validation study was done on the final version of the LAQ and we present the findings below.

Validation

The LAQ has a Self and an Observer version. Each item is presented in a bipolar form proposing two opposite statements. Instrument-takers are asked simply to indicate on a seven-point Likert-type scale the degree to which the left or the right pole of each statement describes the way they (or the individuals they are assessing) act in a particular situation (Likert, 1961). As a guideline they are advised that the scale has a 4 in the middle and goes up from 1–3 to the left and 5–7 to the right. On each side of the scale is a statement that describes self-perceptions. The two descriptions are opposites. The test-takers have to read each statement, decide how they feel about it, and then mark the number that best describes them or the individuals they are

observing. If they feel that their behavior is somewhere in the middle of the two contrasting statements they should mark 4.

The selected sample

The sample used for the validation study of this survey instrument was constructed using data from seven groups of executives from a wide range of nationalities and cultures who attended executive education programs at INSEAD, a global business school with campuses in France and Singapore. The questionnaire was web-based. Participants accessed their Self questionnaire and indicated the observers from whom they were seeking feedback. The system sent an e-mail message to observers informing them that their input was requested. A link to the website with the questionnaire was provided.

The Self version was completed by 427 participants. In addition, participants asked an average of nine (maximum fifteen) people to complete the LAQ as their observers, allowing us to test the 360-degree feedback component of the instrument. The sample used for this validity study therefore comprises 1,670 questionnaires (427 Self versions and 1,243 Observer versions).

The balance between genders is skewed (as is the case at senior levels in most organizations) in favor of males for the Self version of the instrument (76%) and for the Observer version (73%). The mean respondents' age is 31 years and six months for the Self version (std = 8 years, age minimum = 22 years, maximum = 62); 43 years for observer position (std = 8 years, age minimum = 21 years, maximum = 68). The respondents represent 69 nationalities, mostly European, North American and Middle Eastern (British 16%, Australian 11%, South African 9%, German 8%, French 6%, US 6%, Indian 5%, New Zealander 4%, Russian 4%, Dutch 3%, Canadian 3%, Saudi 3%). The order of the countries for these relative frequencies is roughly equivalent for both Self and Observer versions.

Reliability

In this section we detail the results of the reliability analysis of the LAQ. Table 1 gives the descriptive statistics for the sample. The theoretical maximum score per

scale is 48. The average scores are higher than the theoretical mean (24) in general, indicating a ceiling effect due partly to the social desirability factor.

Table 2: *Means, standard deviations, and Cronbach's alpha for the scales of the LAQ estimated on the whole sample (N = 1,670)*

Type	Mean	Std Deviation	Cronbach's alpha
Strategist	31.77	5.92	0.86
Change-catalyst	31.97	5.23	0.78
Transactor	31.15	5.78	0.82
Builder	32.13	5.28	0.66
Innovator	31.63	5.18	0.83
Processor	30.05	6.46	0.82
Coach	34.20	6.00	0.89
Communicator	30.79	6.02	0.81

Internal reliabilities, assessed through standardized Cronbach's alpha, range from 0.66 to 0.89 for the different scales of the LAQ. The lowest values are close to the 0.70 value generally considered to indicate sufficient reliability by classical psychometric treatises (for example, Nunnally, 1978) and by standard practice within the scientific community (Peterson, 1994). These values are partially due to the small number of items per scale (6). Indeed, research has found that the number of items in the calculation of alpha coefficients can appear to create confusion between internal consistency and the length of the scale (Cortina, 1993). A small number of items also has the advantage of needing only short administration time, an important factor for a 360-degree instrument that must be completed by very busy respondents. The inconvenience is that the values for reliability as estimated through Cronbach's alpha are not as high as one would like them to be, although most of the items present have

sound psychometric properties. Furthermore, the Corrected Item/Total Correlations (CITC) has been computed for each item. The CITC mean value (.58) indicates that most of the items present a high relationship with their scale.

The internal reliability of 360-degree feedback instruments is, in general, lower for questionnaires filled out by the test-takers themselves than for questionnaires filled out by their observers (Kouzes and Posner, 2002). It is hypothesized that the difference in internal consistency can be explained by the manifestation of the social desirability factor. Another hypothesis is the artificial inflation of the reliability indicators due to the data collection design: several observers rate the same test-taker in the Self position. The data are structured as a nested design: the raters are nested in the observers. This implies that there may be some dependencies between observers who rate the same Self. This situation is a violation of the assumption of local independency under which the reliability indexes are valid (Lord and Novick, 1968).

To avoid this problem we tested a sample of one observer per assessed test-taker, drawing one observer at random for each Self version with several corresponding Observer versions. Cronbach's alphas have been computed separately for both (Self and Observer) questionnaires. Reliability ranges from .67 to .83 for the Self scores (Table 2) and from .70 to .92 for the Observer scores (Table 2). Observer ratings appear to be more reliable than the way the person (Self) rates him or herself. This phenomenon, undoubtedly related to a more reliable use of the response scale by observers, underscores the importance of using multiple feedback instruments to help executives gain a better understanding of their behavior.

Table 3: *Reliability indices of Self and a random sample of Observers*

	Cronbach's Alpha		**ICC***	**ICC***
Scale	**Self†**	**Observer†**	**Single**	**Average**
Strategist	.82	.88	.17	.29
Change-catalyst	.82	.82	.23	.37
Transactor	.83	.81	.20	.33
Builder	.67	.70	.26	.41

Innovator	.68	.79	.19	.32
Processor	.71	.74	.42	.59
Coach	.80	.92	.24	.39
Communicator	.80	.85	.18	.31

† n = 427 * Internal Consistency Coefficient (Shrout and Fleiss, 1979)

Self-observer reliability was assessed by an inter-rater reliability approach: the intraclass correlation coefficient (Shrout and Fleiss, 1979). The sample was made up of one randomly selected Observer for each Self. The reliability of the inter-rater agreement can be foreseen from two generalizability situations: the use of the rater's single score (comparison between self and each observer) and the use of the average of several raters' scores. The formulae used to estimate the inter-rater reliability are different for both situations. As the LAQ can be used for both situations, the ICC values have been computed for the single (Table 3, column 3) and average situation (Table 3, column 4). These values indicate reliable agreement between Observer and Self versions.

Table 4: *Correlations at the scale level for the whole sample for LAQ (N =1670)*

	BDR	**INN**	**ST**	**CC**	**TR**	**COM**	**COA**	**PR**
BDR	1							
INN	.548							
ST	.430	.670	1					
CC	.505	.649	.606	1				
TR	.441	.550	.495	.597	1			
COM	.424	.574	.535	.539	.552	1		
COA	.151	.377	.359	.389	.232	.499	1	
PR	.263	.244	.272	.368	.312	.273	.120	1

At the item level, the strength of the relationship of each item to its scale can be measured by examining the corrected item test correlation (CITC). For the whole

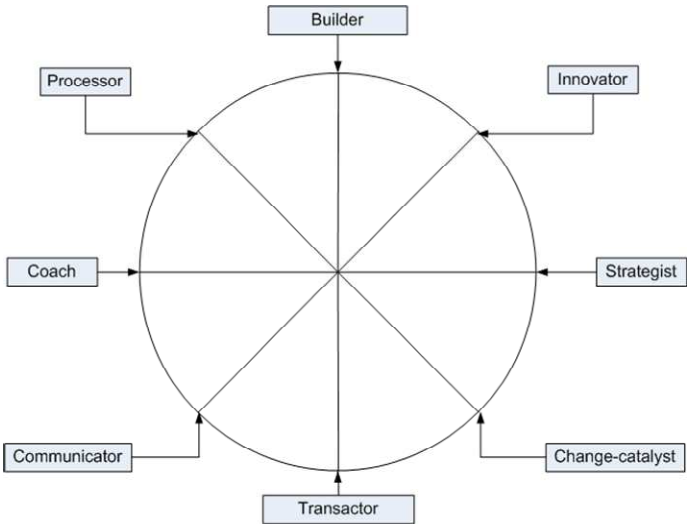
LAQ sample, the CITC ranged from 0.38 to 0.80, with a median at 0.58. For 45 items out of 48, the CITC was higher than 0.40, a value usually considered to indicate a reliable relationship between the item and the scale to which it belongs. For the remaining three items, the CITC values were 0.38, 0.38 and 0.39. Based on this analysis, we concluded that the items were well placed in their respective scales and were therefore measuring different aspects.

Structural validity of the LAQ

Louis Guttman (1954) studied the relationship between variables in a set (mostly intelligence tests), and noted that these relationships were often ordered. Consider four variables: A, B, C, and D. We may find that these variables are ordered—A is nearer to B than to C, and nearer to C than to D; B is nearer to C than to D, etc. This kind of relationship can be represented by a linear order relationship: the variables can be ordered on a line, a schema that Guttman called a 'simplex'. Guttman also observed that some sets of variables exhibited a quite different pattern: the relationships between the variables decreased to a minimum and then began to move up again: A is nearer to B than to C but is nearer to D than to C. He hypothesized that there is a circular order relationship between these variables, which he called a 'circumplex'. It is possible to represent the circumplex by positioning the variables on a circle. Since the seminal work of Leary (1957), circumplex models have been widely used to account for the organization of personality traits (Leary). A publication edited by Plutchik and Conte (1996) takes stock of the research in different psychological fields (emotion, personality, values, vocational interests) using circumplex models.

The eight dimensions of the LAQ are not independent; they are correlated but are sufficiently different for us to hypothesize that they assess different facets of leadership behavior. The correlations matrix (Table 3) exhibits a pattern close to the theoretical one that can be associated with Guttman's simplex or even circumplex structure. The proximity between types deduced from the correlation pattern and represented through the positions of the types on a circle (Figure 2) receives strong theoretical support as they express similarities and dissimilarities between types. This polar graph is used to present the results of the LAQ.

Figure 2: *Circumplex model of the LAQ structure*



Since Guttman's seminal work, different approaches have been proposed to test whether a simplex or circumplex model fits the data. Geometrical approaches like exploratory factor analysis (EFA) and multidimensional scaling (MDS) have been widely used. The aim of these methods is to obtain a geometrical representation of the relationship between the variables using a smaller subset of dimensions than the number of variables. It has been generally accepted that a two-factor (two dimensions, in the case of the MDS) solution supports a circumplex model (Wiggins, J.S., Steiger, J. H. & Gaelick, L., 1981). The geometrical figure formed by the representation of the variables (in general the variables form a circle or a polygon) allows us to conclude—descriptively—whether a circumplex model fits the data.

Anderson (1960) proposed the modeling of the circumplex as a stochastic application in which variables are represented as points around a circle. Correlations between variables are expressed as functions of the tangent arc (in terms of hyperbolic cosine) formed by the vectors joining the center of the circle to the points on the circumference representing the variables. Browne (1992; Browne and Du Toit, 1992) extended this approach by expressing correlations as a Fourier series. Their algorithm

is available as a specific subroutine of a general software—AUFIT, *au*tomated *fit*ting of non-standard models—dedicated to solving systems of non-linear equations. To test the fit of the model to the data, the software computes fit indexes that Browne and Cudeck (1993) demonstrated were pertinent to the use of structural equation modeling: test of exact fit, test of close fit or RMSEA (root mean square error of approximation) and CVI (cross-validation index).

We tested the fit of a circumplex model to the LAQ data (the sample of 427 Self questionnaires) with equally spaced points representing types (Figure 2). We positioned the reference type (Builder) at a zero-degree angle and each subsequent type at a point 45° further from the preceding one: Innovator (45°), Strategist (90°), Change-catalyst (135°), Transactor (180°), Communicator (225°), Coach (270°), Processor (315°). The test of exact fit (following a chi-square distribution) is 28.59 with 18 ddf ($p < .054$) and allows us to reject the null hypothesis of a gap between the model and the data. Other fit indices are as follows: RMSEA = .037 (a value < .05 is generally regarded as acceptable); CVI = .152 less than the CVI for the saturated model (= .169). We can conclude from the results of this analysis, using Anderson's approach as parameterized by Browne and Du Toit, that a circumplex model can give an account of the structure of the LAQ data. The similarity and dissimilarity between types can be represented as the proximity between points equally spaced on a circle.

The LAQ feedback session: a case in point

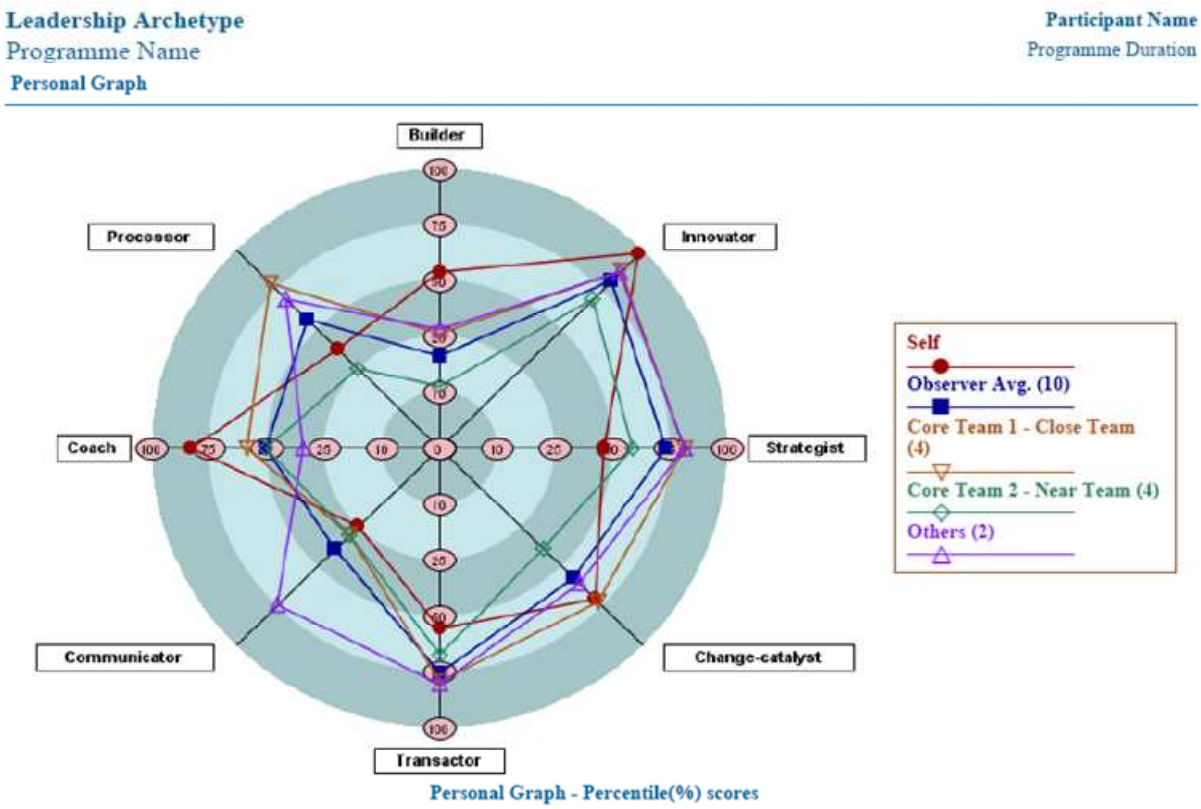
The LAQ has now been in use for three years and has been completed by hundreds of leadership development participants and their observers. In this section we describe the feedback report and give case examples of how we use the LAQ in a small group, team coaching context.

Ideally, the LAQ is completed by the individual participant and also by members of one or two of the core team(s) to which the person belongs (for example, colleagues from the same department and fellow members of a cross-functional executive team). A third category includes all interested others, inside or outside the organization (for example, clients or people from other departments or subsidiaries). The self-score,

core team score(s), and others' scores are then averaged and mapped on a spider web grid, where congruencies and discrepancies are immediately visible.

To see how this works in practice, let's look at the LAQ archetype mapping for Kiera Rhodes (a pseudonym) in Figure 3.

Figure 3: A *sample LAQ feedback report*



Looking at Keira's profile, the first observation is that her self-perception and the perceptions of others are quite close when it comes to the archetypes of Innovator and Transactor. On the other hand, it appears that she has overestimated her skills as a Coach, and underestimated her ability as a Communicator, as compared to the scores given by her observers. This profile is fairly typical of a person who is good at the start-up phase of an organization. It suggests that Keira should think about whether she could develop her coaching and mentoring skills. She is someone who should be encouraged to see in a better light her ability to communicate energy and vision to

people. As an Innovator, she would partner well with people who have a Builder preferential archetype, particularly if she is involved at the board level in mergers, acquisitions, or organizational transformation projects.

In our group sessions, which are facilitated by a senior executive coach, each individual has the opportunity to reflect on their results. The next part of the process is to discuss the feedback of the team as a whole. What do the results indicate? Does this team have a good executive role constellation, given the environment it is operating in? What kind of behavior should be played down or changed? It is also important to consider gaps between self perception and that of others. Each team member should ask him or herself if their own preferential leadership archetypes are effective. In this group setting colleagues can support one another as they identify behaviors to be modified.

In our experience, the benefits that come out of the leadership team coaching exercise using the LAQ far exceed the expectations of the participants. The members of the team become more aware of the leadership roles in which they consciously or unconsciously have cast themselves. With the guidance of the coach facilitator (who preferably will have some familiarity with the psychodynamic approach) they often recognize that just as they had taken on a particular role in their own family while growing up, they now seem to occupy a similar role in the workplace. They may acquire insight into maladaptive interpersonal patterns that weaken the team, discovering how such patterns and the collusive relationships that underlay them contribute to the team's lack of effective conflict resolution, lack of focus, and reduced productivity. And finally, the frank discussion about the balance of leadership archetypes required to face organizational challenges helps to build trust among team members.

We leave the group with the notion that the ideal leader has the option of a repertoire of styles. Rare is the leader, however, who rates high on all of the eight archetypes. But the identification of leadership archetypes may be the first step in expanding one's behavioral repertoire. In doing so, however, the person needs to be realistic; certain roles will not come naturally. They might not have the personality make-up for certain kinds of behavior. There will be problems if people are put into roles they are not suited for, particularly at senior levels in the organization. It is much better for an

executive to maximize her or her strengths, and ask others with complementary archetypes to work with him or her, rather than trying to do, or be, the impossible.

Discussion and Future Research

The Leadership Assessment Questionnaire was developed to identify and facilitate the analysis of leadership archetypes. The fact that there are significant links among the various archetypes measured may be viewed as supporting the theoretical underpinnings of the LAQ: many of the behaviors demonstrated by test-takers come from the same biosocial, cognitive and psychosocial foundations. The difference, however, is that the dimensions measured by this instrument, although capturing only a fraction of the richness of leadership behavior, reflect the areas that seem to be particularly important for the functioning of executives in organizations. The objective of the LAQ is to deepen the test-takers' awareness of how their strengths align with their context, and how others perceive them. This instrument helps executives start a journey of self-exploration and encourages them to undertake a meaningful discussion with their leadership teams about the best combination of archetypes for the organization. It provides an overview of the firm's current leadership constellation and a roadmap of how recruitment and executive development can fill the gaps in it. In the three years since the fully tested version has been available, hundreds of executives from around the world have used the LAQ in team-building seminars, and the relevance and cultural validity of the instrument have been demonstrated. LAQ is an effective tool for individual or group executive coaching on building high-performance teams and organizations.

Future research

Future research should focus on delving deeper into each of the archetypes and the nature of their relationships with other performance indicators. This is a fascinating field which is important for a better understanding of the human mind, executive functioning, leadership style, and organizational effectiveness.

Another exciting area for further research consists in addressing the differences between Self and Observer scores. We have indicated the difference that is generally typical for 360-degree instruments. However, further research into differences in perception of various leadership dimensions may shed light on discrepancies between public and private selves, as well as archetypes that are more or less accessible to an outsider. The implications would include important issues such as selection and development based on the observations of an individual.

Further research into differences along various dimensions measured by the LAQ is important for increasing our knowledge about the influence of nationality, gender and age on the scores obtained. In particular, it would be interesting to see how perceptions differ between national cultures and between genders.

Another important area for future research involves comparing the results of the LAQ with established measures of managerial or leadership behavior, such as the Global Executive Leadership Inventory (Kets de Vries, 2004a, 2004b; Kets de Vries *et al.*, 2004). Understanding the correlations between the LAQ and the Global Executive Leadership Inventory could increase our understanding of the driving forces behind certain leadership practices.

Conclusion

The acquisition of a specific leadership behavior pattern can be compared to a dance between nature and nurture. Leadership behavior does not emerge in isolation. It is a highly complex transformation in which many factors play a part. Genetic predisposition combines with socializing influences to create character traits that will be expressed as preferred behavior, including leadership archetype(s). A leadership archetype is the outcome of an interactive process between the individual and his or her environment.

For diagnostic purposes, the notion of leadership archetypes is helpful in designing and shaping effective organizational teams. Understanding character, competencies, and roles is a powerful tool in the hands of an organizational designer. Whether leadership behavior is effective or ineffective is very much dependent on context. The situation in which the organization finds itself will determine which leadership

archetype is most effective. What transition do leaders have to make to function well in a new role? What kind of developmental preparation is needed to make such a transition possible? What can executives do to bring about changes in their leadership behavior?

The LAQ helps leaders assess which executive role configuration will be most effective in meeting future challenges. As suggested, the strength of an archetype in one situation may turn into a weakness in another. Knowing one's preferred style will also be helpful when creating management teams. Highly effective organizations have high-performance teams, and our experience in studying such teams has shown that there needs to be complementarity between team members. In well-functioning teams, members help each other. They view life in organizations as a sum-sum, not a zero-sum, game. In high performance teams, executives leverage their strengths, allowing their colleagues to compensate for their weaknesses.

By learning more about their behavioral preferences and their leadership behavior, executives optimize their interactions more efficiently. This knowledge helps them with communication and decision making. They gain valuable insights into other people and how they resemble or differ from them. When executives take time to develop an understanding of each other's leadership archetypes, and are able to discuss each other's strengths and weaknesses, they lay the foundations for the organization's success.

References

Anderson, T.W. (1960). “Some stochastic process models for intelligence test scores” in K.J. Arrow, S. Kalin, and P. Suppes (Eds). Mathematical methods in the social sciences (pp. 205–20). Stanford CA: Stanford University Press.

Bagozzi, R. P., Yi, Y., and Phillips, L. W. 1991. “Assessing construct validity in organizational research.” Administrative Science Quarterly, 36(3), 421–58.

Bass, B. M. (1985). Leadership and Perfomance Beyond Expectations. New York: Free Press.

Bass, B. M. (1989). Stogdill's Handbook of Leadership: A Survey of Theory and Research. New York: Free Press.

Bass, B. M. and B. J. Avolo (1994). Improving Organizational Effectiveness through Transformational Leadership. Thousand Oaks, CA: Sage Publications.

Belbin, R. M. (1996). Team Roles at Work. Oxford: Butterworth Heinemann.

Belbin, R. M. (2003). Management Teams: Why they Succeed or Fail. Oxford: Butterworth Heinemann.

Blake, R. R. and J. S. Mouton (1985). The Managerial Grid III: The Key to Leadership Excellence. Houston: Gulf Publishing Company.

Boyatzis, R. (1982). The competent manager: a model for effective performance. New York: Wiley.

Bresnen, M. (1995). “All things to all people? Perceptions, Attributions, and Constructions of Leadership.” The Leadership Quarterly, 6:4.

Browne, M.W. (1992). “Circumplex models for correlation matrices.” Psychometrika, 57, 469–97.

Browne, M. W., and R. Cudeck. 1993. “Alternative ways of assessing model fit.” In: Testing structural equation models (136–62), K. A. Bollen and J. S. Long, eds. Newbury Park, CA: Sage Publications,

Browne, M.W., and Du Toit, S.H.C. (1992). “Automated fitting of nonstandard models.” Multivariate Behavioral Research, 27, 269–300.

Burns, J. M. (1978). Leadership. New York: Harper and Row.

Cortina, J. M. (1993). “What is Coefficient Alpha? An Examination of Theory and Application.” Journal of Applied Psychology 78, 98–104.

Dotlich, D., Noel, J. and Walker, N. (2004). Leadership Passages: The Personal and Professional Transitions that Make or Break a Leader. Jossey-Bass: San Francisco, CA

Fiedler, F. E. (1967). A Theory of Leadership Effectiveness. New York: McGraw-Hill.

Gronn, P. (2002). “Distributed leadership as a unit of analysis.” The LeadershipQuarterly, 13 (2002).

Guttman, L. (1954). “A new approach to factor analysis: the radex.” In P.F.Lazarsfeld (Ed), Mathematical thinking in the social sciences (pp. 258-348). Glencoe Ill.: The Free Press.

House, R. J. and B. Shamir (1993). Toward the Integration of Charismatic, Transformational, Inspirational, and Visionary Theories of Leadership. Leadership Theory and Research Perspectives and Directions. (81–107) M. Chemmers and R. Ayman. New York: Academic Press Inc.

Jackman, J. and Strober, M. (2003) “Fear of Feedback.” Harvard Business Review, April, 101–7.

Kets de Vries, M.F. R. (2001). The Leadership Mystique. London: Financial Times/Prentice Hall.

Kets de Vries, M. F. R. (2004a). Global Executive Leadership Inventory: Participant’s Guide. San Francisco: Jossey-Bass.

Kets de Vries, M. F. R. (2004b). Global Executive Leadership Inventory: Facilitator’s Guide. San Francisco: Jossey-Bass.

Kets de Vries, M. F. R. (2006). The Leader on the Couch. London: Wiley.

Kets de Vries, M. F. R. and S. Perzow (1991). Handbook of Character Studies. New York: International University Press.

Kets de Vries, M. F. R., Vrignaud, P. and Florent-Treacy, E. (2004). “The Global Leadership Life Inventory: Development and Psychometric Properties of a 360-Degree Feedback Instrument,” Journal of Management Studies, 15 (3), 475–92.

Kilburg, R. (2000). Executive Coaching: Developing Managerial Wisdom in a World of Chaos. Washington, DC: American Psychological Association.

Kouzes, J. M. and Posner, B. Z. (2002). The Leadership Challenge. San Francisco: Jossey-Bass.

Leary, T. (1957). Interpersonal diagnosis of personality: A functional theory and methodology for personality evaluation. New York : Ronald Press.

Likert, R. (1961). New Patterns of Management. New York: McGraw-Hill.

Lord, F. and Novick, M. (1968). Statistical Theories of Mental Test Scores. Oxford: Addison-Wesley.

McGregor, D. (1960). The Human Side of Enterprise. New York: McGraw Hill.

Messick, S. (1994). “Foundations of Validity: Meaning and Consequences in Psychological Assessment.” European Journal of Psychological Assessment, 10, 1–9.

Millon, T. (1996). Disorders of Personality: DSM IV and Beyond. New York: John Wiley.

Mintzberg, H. (1973). The Nature of Managerial Work. New York: Harper & Row.

Nunnally, J. C. (1978). Psychometric Theory. New York: McGraw-Hill.

Peiperl, M. (1999). “Conditions for the Success of Peer Evaluation.” The International Journal of Human Resource Management. 10 (3), 429–58.

Pervin, L. and J. E. Oliver, Eds. (2001). Handbook of Personality: Theory and Research. New York: The Guilford Press.

Peterson, R. A. (1994). “Cronbach’s Alpha Coefficient: A Meta-analysis.” Journal of Consumer Research. 21, 381–91.

Plutchik, R., and H. R. Conte (1996). “Introduction: Circumplex models of personality and emotions.” In Plutchik, R., and H. R.Conte (Eds), Circumplex models of personality and emotions (1–14). Washington D.C: American Psychological Association.

Shrout, P. E. and Fleiss, J. L. (1979). “Intraclass Correlations: Uses in Assessing Rater Reliability.” Psychological Bulletin. 86, 420–28.

Tannenbaum, R. and W. Schmidt (1958). “How to Choose a Leadership Pattern.” Harvard Business Review. 36, 95–101.

Wiggins, J.S., Steiger, J. H. & Gaelick, L. (1981). Evaluating circumplexity in personality data. Multivariate Behavioral Research, 16, 263-289.

Zaleznik, A. (1990). Executive’s Guide to Motivating People. Chicago: Bonus Books.

Europe Campus
Boulevard de Constance
77305 Fontainebleau Cedex, France
Tel: +33 (0)1 60 72 40 00
Fax: +33 (0)1 60 74 55 00/01

Asia Campus
1 Ayer Rajah Avenue, Singapore 138676
Tel: +65 67 99 53 88
Fax: +65 67 99 53 99

www.insead.edu

Printed by INSEAD

INSEAD

The Business School
for the World®

Copyright of INSEAD Working Papers Collection is the property of INSEAD and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.