

The leader effect and behavioral complexity

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Abstract

This paper reviews research into the impact that leaders have on performance outcomes and into the identification of behavioral competencies associated with superior leadership effectiveness. The review indicates that around twenty percent of performance outcomes may be attributed to leaders depending on the level of discretion they exercise. Eleven High-Performance Competencies (H-PC) are identified that appear associated with the leader effect; several of these H-PC derive from Behavioral Complexity Theory as developed and explored by Professor Siegfried Streufert and his colleagues.

1 | INTRODUCTION

Since the dawn of history, the impact leaders have on social formations has been a topic of enduring interest as “The Twelve Caesars”, written in AD 121 by Gaius Suetonius Tranquillus, (2007) testifies. In modernity, empirical research suggests leaders have significant effects, both positive and negative, on team, organizational, and national outcomes. Furthermore, it appears the impact of leaders may have increased over time and be greater when their institutional environment provides them with more leeway. It is little wonder, therefore, that substantial resources have been devoted to identifying, assessing, and developing leadership capabilities that build high levels of performance and do so in contemporary environments where dynamism, opportunity, and challenge increasingly prevail.

The paper proceeds as follows. First, research that estimates the effect leaders have on the performance of social entities is summarized. There follows a description of the process used to identify and measure reliably the 11 “High-Performance Competencies” (H-PC) – a complex set of behaviors that appear significantly related to leader effectiveness. Lastly, there is a discussion and conclusions are drawn. The paper highlights the important role Professor Siegfried Streufert has made to the identification, assessment, and validation of the H-PC and, therefore, to global managerial effectiveness.

2 | THE EFFECT OF LEADERS

In modern times, practitioners and academics who are interested in the impact of leaders on performance outcomes have coalesced into two schools of thought. The “agency school” (e.g., Barnard, 1938; Burns & Stalker, 1961; Child, 1972; Drucker, 1954; Lawrence & Lorsch, 1967; Zajac, 1990) argues leaders have a potent impact on performance through their involvement in, for example, strategy formation, investment decision-making, organizational design, human resources management, and cultural development. By contrast, the “constraints school” (e.g., Burkhardt, 1991; Hannan and Freeman, 1993; Martin, 1992; Pfeffer, 1981; Pfeffer & Salancik, 1978) suggests the impact of leaders is restricted by factors like organizational inertia, path-dependence, environmental restrictions and cultural rigidities.

To compare the efficacy of the agency and constraints schools, researchers have conducted a series of studies into the effect that Chief Executive Officers (CEO's) have on organizational outcomes. The pioneering study was conducted by Lieberman and O'Connor (1972) who used a sample of 167 major, publicly owned US corporations over a 20-year time period (1946–1965) to estimate the “CEO Effect”. This private sector study was followed by those of Weiner (1978); Weiner and Mahoney (1981); Thomas (1988); Wasserman et al. (2010); Crossland and Hambrick (2007); Mackey (2008); Crossland and Hambrick (2011); Hambrick and Quigley (2014); Fitza (2014); Quigley and Hambrick (2015); and Quigley and Graffin (2017).

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In addition, CEO effect studies have been conducted outside the private corporate sector. For example, Salancik and Pfeffer (1977) estimated the impact of mayors on the municipal budgets of 30 US cities over a 30-year period (1951–1968); Smith et al. (1984) researched the impact of 50 senior United Methodist ministers on church performance over a 20-year period (1961–1980) while Jones and Olken (2005) followed by Besley et al. (2011) have explored the effect national leaders have on economic growth.

Whilst the studies outside the private sector broadly support the view that leaders significantly influence performance outcomes, the CEO effect research cited above provides the most comprehensive and comparable set of studies. Typically, this research gathers large panel datasets and uses variance partitioning methodologies (such as sequential ANOVA, simultaneous ANOVA and multilevel modeling) to estimate the variance in organizational outcomes explained by macro-economic trends, industry trends, firm trajectory, and CEO's. Firm profitability, as measured by Return on Sales (ROS) or Return on Assets (ROA), is the most common dependent variable, although several other outcome indices have been used, including Tobin's Q.

Quigley and Graffin (2017) explain that this body of work relies on association, not necessarily causality. Nevertheless, they argue, the plurality of work is suggestive of a causal link. The data and statistical procedures used by private sector CEO effect studies have provided significant challenges to researchers, and a lively debate has occurred over the size of this effect; Table 1 presents a summary of the CEO effect findings for firms based in the USA using ROS and ROA as the criterion variables.

The analysis by Quigley and Hambrick (2015) using multilevel modeling possibly provides the best overall picture of the private sector CEO effect in the USA, which appears to be significant and increasing over time (as Table 1 shows, the CEO effect calculated by multilevel modeling accounts for 13.8% of ROA variance in the period 1950–1969, 17.8% in 1970–1989 and 22.9% in 1990–2009). The authors suggest three factors may be causing an increased CEO effect over time: (i) the challenging shift from an ethos of satisficing to an imperative of maximizing of shareholder returns; (ii) increased environmental dynamism and (iii) an expansion in the range of strategic opportunities available to firms.

It is tempting to generalize the strength of the corporate CEO effect in the USA across the world; however, comparative international research by Crossland and Hambrick (2007, 2011) and Hambrick and Quigley (2014) indicates this extension is probably a step too far. These two studies have tried to reconcile the agency and constraints schools through the concept of national managerial discretion (defined as the extent to which CEOs are able to influence the actions and outcomes of their firm); the strategic leeway available to CEOs, it is argued, varies between countries due to formal and informal institutional factors and the CEO effect varies accordingly. Table 2 presents national managerial discretion and CEO effect results with ROS and ROA as the dependent variable for 746 firms in 15 countries over the period 1996–2005 [Crossland and Hambrick (2011)]. As the table indicates, and statistical tests confirm, the observed

CEO effect does vary between countries and national managerial discretion moderates the effect.

In summary, the research reviewed suggests that in contemporary challenging, dynamic and opportunistic environments CEO's with substantial managerial discretion may account for fifteen to twenty percent of the variance in organizational performance. In more constrained environments the CEO effect is lower, but still important, and probably at the 5%–10% level. As these findings may well be a proxy for the impact leaders have on the performance of teams and units within organizations, it is understandable why so much time and effort has been devoted to identifying, assessing, and developing the behaviors that underpin leadership and managerial effectiveness. The next section focuses on the identification of such behaviors.

3 | THE DERIVATION OF HIGH-PERFORMANCE COMPETENCIES

For over a century, scholars have investigated the relationship between a wide range of individual variables and leadership effectiveness; these variables include intelligence and personality—as the meta-analyses of Judge et al. (2004) as well as Judge et al. (2002) describe and summarize. In this paper we focus on learnable behavioural competencies that are associated with superior leadership performance. Four distinct streams of research have investigated and tested the criterion-related validity of such behaviors; these are the studies into (i) Initiating Structure and Consideration; (ii) Transformational-Transactional Leadership Theory; (iii) Behavioral Complexity Theory and (iv) Managerial Competencies. The four streams are reviewed below.

1. Initiating Structure and Consideration were explored at Ohio State University [by researchers who included Hemphill (1950), Stodgill (1963) and Fleishman and Hunt (1973)], at the Institute of Social Research of the University of Michigan [as summarized by Likert (1961)] and at Harvard University [see Bales (1949)]. Fleishman and Harris (1962) defined Initiating Structure as behavior in which the supervisor organizes and defines group activities; it encompasses task-related behaviors like defining group members' roles, assigning tasks, planning ahead and organizing. Consideration was defined as behaviors indicating mutual trust, respect, and a certain warmth and rapport between the supervisor and the group; it covers the people-related behaviors of emphasizing concern for group members' needs, allowing participation in decision-making and encouraging two-way communication. The positive relationship between indices of leadership effectiveness and both Initiating Structure and Consideration was highlighted by the meta-analysis of Judge, Piccolo, et al. (2004).
2. Transformational-Transactional Leadership Theory has been developed and explored by many researchers—most notably by House (1977), Burns (1978), and Bass (1985). The latter argued

TABLE 1 Private sector CEO effect studies in the USA

Study	Date	Data	Method	Effects (% variance)					
				DV	YEAR	IND	FIRM	CEO	ERROR
Lieberson and O'Connor	1972	1946-1965 167 firms 13 industries	Sequential ANOVA	ROA	1.8	28.5	22.6	14.5	32.6
Weiner	1978	1956-1974 193 firms Manufacturing	Sequential ANOVA	ROA	2.4	20.5	45.8	8.7	22.6
Wasserman, Nohria and Anand	2001	1979-1997 531 firms 42 industries	Hierarchical OLS Regression	ROA	2.6	6.3	25.5	14.7	50.9
Crossland and Hambrick	2007	1988-2002 108 firms in 8 Industries	Maximum Likelihood Simultaneous ANOVA	Maximum Likelihood (enhances CEO effect)					
				ROS	3.0	8.2	14.6	31.5	42.7
				ROA	4.0	7.7	6.5	30.4	51.4
				Simultaneous ANOVA (dampens CEO effect)					
				ROS	3.0	14.8	23.3	14.0	44.9
				ROA	3.6	11.8	19.1	13.4	52.1
Mackey (Main Study)	2008	1992-2002 51 firms 98 industries	Simultaneous ANOVA	ROA	0.7	6.2	7.9	29.2	56.0
Crossland and Hambrick	2011	1996-2005 100 firms	Multilevel modeling	ROS	-	-	-	10.4	-
				ROA	-	-	-	15.5	-
Hambrick and Quigley	2014	1992-2011 315 firms in 44 industries	Sequential ANOVA Multilevel modeling CEO in Context	Sequential ANOVA					
				ROA	2.5	9.2	29.8	16.3	42.2
				Multilevel modeling					
				ROA	2.1	3.2	24.2	20.4	50.1
				CEO in context					
				ROA	2.5	6.9	12.1	38.5	40.0
Fitza	2014	1993-2012 1,425 firms 220 industries	Simultaneous ANOVA	ROA	2.0	7.3	33.4	17.7	42.2
				Random variable	0.1	1.2	7.3	13.8	77.6

(Continues)

TABLE 1 (Continued)

Study	Date	Data	Method	Effects (% variance)							
				DV	YEAR	IND	FIRM	CEO	ERROR		
Quigley and Hambrick	2015	1950–2009 1,015 firms 30 industries	Sequential ANOVA	PERIOD 1:1950–1969: Sequential ANOVA							
				ROS	3.1	38.7	41.8	4.1	12.3		
			Multilevel modeling	ROA	5.4	16.1	47.9	7.8	22.8		
				PERIOD 2:1970–1989: Sequential ANOVA							
			ROS	1.7	10.2	34.6	10.9	42.6			
				ROA	3.2	4.9	34.7	10.8	46.4		
			PERIOD 3:1990–2009: Sequential ANOVA								
				ROS	1.8	3.7	33.7	16.2	44.6		
			ROA	2.3	3.5	31.8	15.7	46.7			
			PERIOD 1:1950–1969: Multilevel modeling								
ROS	2.4	28.3		44.8	8.6	15.9					
ROA	4.0	12.1	44.4	13.8	25.7						
PERIOD 2:1970–1989: Multilevel modeling											
	ROS	1.5	5.2	24.6	20.3	48.4					
ROA	2.8	1.9	24.5	17.8	53.0						
PERIOD 3:1990–2009: Multilevel modeling											
	ROS	1.9	1.9	17.3	26.4	52.5					
ROA	2.3	1.8	18.1	22.9	54.9						
Quigley and Graffin	2017	1993–2012 1,399 firms 213 industries	Simultaneous ANOVA								
			ROA	2.5	9.3	25.8	18.0	44.4			
			Multilevel modeling (MLM)								
			ROA	1.6	4.6	21.1	21.8	50.9			

Abbreviations: CEO, CEO effects; DV, dependent variable; FIRM, corporate effects; IND, industry effects; ROS, return on sales; ROA, return on assets; YEAR, macroeconomic effects.

TABLE 2 Managerial discretion & CEO effects in 15 countries

Country	Managerial discretion	CEO Effect (% Variance)	
		ROS	ROA
United States	6.6	10.4	15.5
United Kingdom	6.0	15.7	19.4
Canada	5.9	11.4	6.6
Australia	5.7	9.9	23.6
Netherlands	5.2	8.5	12.5
Sweden	5.1	7.6	9.9
Switzerland	5.0	23.2	14.4
Singapore	4.8	10.9	12.5
Spain	4.6	7.6	1.6
Germany	4.1	11.0	11.5
France	4.0	7.0	20.3
Austria	3.8	7.5	6.7
South Korea	3.8	1.9	2.6
Italy	3.2	22.9	10.7
Japan	3.0	6.6	6.3

Notes: Crossland, & Hambrick, (2011). p 812.

Abbreviations: ROA, return on assets ; ROS, return on sales.

that transformational and transactional leadership involve different behaviors and that both contribute to performance. Accordingly, Bass identified four dimensions of transformational leadership behavior (charisma, inspirational motivation, intellectual stimulation, and individualized consideration) plus three transactional dimensions (contingent reward, management by exception-active, and management by exception-passive). The meta-analysis of Judge and Piccolo (2004) revealed the positive link to performance measures of the four transformational leadership dimensions and the contingent reward dimension of transactional leadership.

- Behavioral Complexity Theory research at Princeton University aimed to identify the information processing behaviors (differentiation and integration) used by individuals and groups when working on complex tasks that are consistently and significantly related to high performance. Professor Siegfried Streufert was a seminal contributor to this research as multiple publications demonstrate; for instance: Schroder et al. (1967), Streufert (1970), Streufert and Swezey (1986), and Streufert et al. (1988). The original research was, and continues to be, extended by scholars that include Satish and Streufert (1997), Suedfeld and Tetlock (1977), and Tetlock et al. (1993),
- Managerial competency research is grounded in the Job Competency Assessment Method that was created by McClelland—see Spencer et al. (1994); it attempts to identify the full range of behaviors that are associated with superior leadership outcomes. Boyatzis (1982) made a seminal contribution to this stream of research by presenting the results of numerous criterion-related studies involving 462 private sector and

547 public sector managers in the USA. Around the same time, Huff et al. (1982) completed research into high performing school principals on behalf of the Florida Council for Educational Management. Later, Schroder (1989) built on these foundations and his experience in the Behavioral Complexity Theory studies at Princeton by defining a range of competencies that, in his view, underpinned superior performance in modern “third-wave” environments.

Content analysis of the behaviors explored by the four streams of research described above (see Table 3) indicated that 11 H-PC had been identified (see the “Schroder” column in Table 3). To facilitate behavioral assessments, each H-PC was precisely defined (see Table 4) and a five-point behaviorally anchored rating scale was specified for each H-PC (see the general model for the rating scales in Table 5 and, as an example, the specific rating scale for Conceptual Complexity in Table 6). These definitions and scales enabled the training and certification of a core pool of 10 assessors who conducted ongoing research. Certification tests required trainees to achieve a minimum agreement with expert H-PC ratings of 80 percent; the members of the core pool all achieved at least 90%. The H-PC model was further reinforced by a separate research program using SMS methodology to measure a set of information processing variables that map into the Thinking and Achieving H-PC – see Streufert et al. (1988)

A variety of assessment methodologies have been used to assess the H-PC. These include 360° questionnaires [Guenole et al. (2011)], Behavioral Event Interviews [McClelland (1998)], Situational Judgement Tests [Guenole et al. (2015)], Workshadowing [Cockerill (1989)], Assessment Centres [Cockerill et al. (1993)], and SMS methodology [Streufert and Swezey (1986)]. In two of these methodologies, Workshadowing and Assessment Centres, ratings are made of directly observed behavior by small pool of highly trained and certificated assessors, whilst SMS methodology makes objective behavioral measurements. For this reason, these three approaches have been preferred in large scale validation studies.

4 | DISCUSSION AND CONCLUSIONS

Research indicates that the CEO's of large business organizations may account for up to 20% of firm performance depending on the managerial discretion they exercise. Leaders also appear to have a significant effect on the outcomes of public sector organizations and nations. Probably, leaders have a similar effect in smaller social entities (such as entrepreneurial firms, organizational units, and teams), especially when the institutional context is less constrained. The managerial discretion hypothesis has enabled a breakthrough to occur in our understanding of the way the CEO effect varies due to situational factors and five comments seem appropriate. First, the managerial discretion construct validity could be refined: what are the core dimensions and how should they be combined to produce a single score? In this regard, the managerial discretion variable may

TABLE 3 Content analysis of behaviors identified by leadership studies into high-performance behaviors

Initiating structure and consideration studies		Transformational-Transactional leadership		Complexity theory studies	FCEM study	Boyatzis study	Schroder
Ohio state	University of Michigan	Harvard University	Leader asks for information	<p>INFORMATION DIFFERENTIATION</p> <p>The number of unique dimensions of information used in making a judgement; multi-dimensional thinking</p>	<p>MONITORING</p> <p>Informally observes and interacts with staff and students with the purpose of diagnosing conditions; gathers information from sources inside and outside the school to determine what may be contributing to a problem</p>	<p>DEDUCTIVE USE OF CONCEPTS</p> <p>One part of the competency is defined as using concepts to direct information search or to test for information</p> <p>PROACTIVITY</p> <p>One part of the competency is defined as seeking information in relation to goals and plans</p>	<p>INFORMATION SEARCH</p> <p>The breadth and depth of information search across relevant categories in problem solving, monitoring, testing and checking</p>
			<p>INTELLECTUAL STIMULATION</p> <p>Leader makes problem-solving attempts by giving suggestions, ideas and opinions formed by linking information</p>	<p>INTEGRATION</p> <p>A process of relating a stimulus configuration of two or more dimensions; to view different dimensions of information in terms of their potential implications for the organization</p>	<p>PATTERN RECOGNITION</p> <p>Explains behavior that has occurred in terms of two or more causal factors; identifies discrete behaviors of individuals or aspects of situations as indicative of a trend or condition; expresses relationships between events and goals</p>	<p>CONCEPTUALIZATION</p> <p>Recognizes patterns in an array of information, develops concepts, or ideas which describe a pattern or sequence of events</p>	<p>CONCEPT FORMATION</p> <p>Can link different kinds of information separated spatially and over time to form concepts, hypotheses or ideas; a creative, logical process of forming ideas based on a range of information</p>
			<p>FLEXIBLE INTEGRATION</p> <p>Considers relationships between alternative options and integrations</p>	<p>ANALYTICAL ABILITY</p> <p>Identifies the advantages of different options; compares a situation or behavior with another situation or behavior</p>	<p>PERCEPTUAL OBJECTIVITY</p> <p>A part of this competency is described as the disposition to view an event from multiple perspectives simultaneously; the identification of pros and cons of alternatives</p>	<p>CONCEPTUAL FLEXIBILITY</p> <p>Views an event from multiple conceptions or perspectives simultaneously; considers the pros and cons (relationships) between different options or strategies to arrive at decisions</p>	

(Continues)

Initiating structure and consideration studies		Transformational-Transactional leadership				
Ohio state	University of Michigan	Harvard University	Complexity theory studies	FCEM study	Boyatzis study	Schroder
<p>CONSIDERATION A part of this dimension includes behavior used to gain an understanding of the needs of others</p>	<p>Leader understands the point of view of staff by listening to their ideas, feelings, concerns and goals, by using summaries to test their understanding of other's ideas and patiently giving group members ample opportunity to express their own thoughts without being constrained by the leader presenting own views</p>	<p>Leader asks for opinions and suggestions</p>	<p>INTERPERSONAL DIFFERENTIATION Understands the dimensions and integrations used by others in making judgements</p>	<p>PERCEPTUAL OBJECTIVITY States another person's or group's perspective; acknowledges the legitimacy of other's perspectives (e.g., teachers, students, subordinates, supervisors, customers, regulators)</p>	<p>PERCEPTUAL OBJECTIVITY A part of this competency is described as the ability to understand another person's point of view</p>	<p>INTERPERSONAL SEARCH Discovers, understands the concepts and ideas of others; demonstrates behavior which ensures the accurate understanding of the ideas of others from their point of view</p>
<p>CONSIDERATION A part of this dimension includes allowing others to participate in group decision-making</p>	<p>Leader involves subordinates in issues and uses consensus decision-making</p>	<p>Leader uses socioemotional behavior by showing solidarity and agreement with the ideas, suggestions, and opinions of group members; thus, a sense of involvement is created</p>	<p>MANAGING INTERACTION Stimulates others to interact in one-on-one situations and group like valued members of a team; creates a climate in which others feel involved, that they are participating and contributing; builds a desire to work together and builds co-operation within and between groups</p>	<p>MANAGING GROUP PROCESS Stimulates others to work together to collaborate and to get one group to work with another; builds identity, pride and trust.</p>	<p>USE OF SOCIALIZED POWER Builds commitment by modeling the desired behavior</p>	<p>MANAGING INTERACTION Stimulates others to interact in one-on-one situations and group like valued members of a team; creates a climate in which others feel involved, that they are participating and contributing; builds a desire to work together and builds co-operation within and between groups</p>
<p>CONSIDERATION A part of this dimension includes allowing others to participate in group decision-making</p>	<p>Leader involves subordinates in issues and uses consensus decision-making</p>	<p>Leader uses socioemotional behavior by showing solidarity and agreement with the ideas, suggestions, and opinions of group members; thus, a sense of involvement is created</p>	<p>COMPLEXITY THEORY STUDIES Transformational-Transactional Leadership</p>	<p>FCEM STUDY Complexity theory studies</p>	<p>BOYATZIS STUDY Complexity theory studies</p>	<p>SCHRODER Complexity theory studies</p>
Ohio state	University of Michigan	Harvard University	Complexity theory studies	FCEM study	Boyatzis study	High performance competencies

Initiating structure and consideration studies		Transformational-Transactional leadership	Complexity theory studies	FCEM study	Boyatzis study	Schroder
Ohio state	University of Michigan	Harvard University				
	Leader develops staff by having high expectations of their performance, by encouraging them to take on extra responsibility, by training and coaching them by using mistakes or errors as learning opportunities					
		INDIVIDUALIZED CONSIDERATION A part of this dimension is that the leader acts as a coach and mentor to followers.			DEVELOPING OTHERS Provides others with performance feedback in order to stimulate performance; openly discusses performance problems; employs training and development resources to help individuals and encourages others to take responsibility for their development.	DEVELOPMENTAL ORIENTATION Develops an understanding of the skills needed for effective work performance; uses coaching, feedback and training resources to increase the accuracy of the awareness of strengths and limitations and to support development to improve performance of self and others.
		CHARISMA The leader appeals to followers on an emotional level	PERSUASIVENESS Uses information to persuade others; directly asserts that others must do things in particular ways; persuades in terms of the other's best interests; models the behavior expected of others	CONCERN WITH IMPACT Is concerned with symbols of power to have an impact on others; can translate the need to persuade into being able to influence others.	USE OF SOCIALIZED POWER Builds alliances to influence others to accomplish tasks	IMPACT Uses information and symbols based on authority and responsibility to influence others; builds alliances and common bonds to link ideas in the interests of others; models desired ideas and values
		CHARISMA The leader provides an admirable model that induces followership, is a symbol of success and accomplishment, increases optimism, takes stands and is resolute				SELF CONFIDENCE Shows confidence and one is doing; is forceful, unhesitating and has a belief in the likelihood of one's own success; is decisive and expresses little ambivalence about decisions already made

						SELF CONFIDENCE Shows confidence and provides clarity in dealing with issues; may recognise alternatives but states own position and faces other positions to spell out the justification of each; unhesitatingly makes a decision when required and commits self and others
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TABLE 4 Definitions of the high-performance competencies

Cluster	High-performance competency	Competency definition
Thinking	Information search	Gathers many different kinds of information and uses a wide variety of sources to build a rich informational environment in preparation for decision-making in the organisation
	Concept formation	Builds frameworks or models or forms concepts, hypotheses or ideas on the basis of information; becomes aware of patterns, trends and cause/effect relations by linking disparate information
	Conceptual Flexibility	Identifies feasible alternatives or multiple options in planning and decision-making; holds different options in focus simultaneously and evaluates their pros and cons
Developmental	Interpersonal search	Uses open and probing questions, summaries, paraphrasing etc. to understand the ideas, concepts and feelings of another; can comprehend events, issues, problems, opportunities from viewpoint of others
	Managing interaction	Involves others and is able to build cooperative teams in which group members feel valued and empowered and have shared goals
	Developmental orientation	Creates a positive climate where staff increase the accuracy of their awareness of their strengths and limitations; provides coaching, training & developmental resources to improve performance
Directional	Impact	Uses various methods (e.g., persuasive arguments, modeling behavior, inventing symbols, forming alliances & appealing to others' interests) to gain support for ideas, strategies & values
	Self confidence	States own "stand" or position on issues; unhesitatingly takes decisions when required and commits self and others accordingly; expresses confidence in the future success of the actions to be taken
	Presentation	Presents ideas clearly with ease and interest so that the other person (or audience) understands what is being communicated; uses technical, symbolic, non-verbal and visual aids effectively
Achieving	Proactive orientation	Structures the task for the team; implements plans and ideas; takes responsibility for all aspects of the situation even beyond ordinary boundaries—and for the success and failure of the group
	Achievement orientation	Possesses high internal work standards and sets ambitious, risky and yet attainable goals; wants to do things better, to improve, to be more effective and efficient; measures progress against targets

be missing an important situational factor: normality verses crisis; complexity research, for instance [see Streufert and Swezey (1986)], indicates that managerial discretion may differ between normal and crisis conditions so this factor should be explored in more depth.

Second, the managerial discretion concept should be used more extensively within and between countries to inform both contemporary and historical analyses. Third, the concept should be applied to complex businesses and institutions; it is likely that a diversity of

TABLE 5 General model for the high-performance competency rating scales

Rating	Descriptor	Definition	Outcome
5	Strategic strength	In addition, plans or implements strategies to perpetuate the use of the competency by others; builds a value for the competency in the organization	Perpetuates high performance
4	Strength	In addition, uses higher order competency behavior that has a wider effect in the organisation than do direct responses to specific events, inputs, and situations	High performance
3	Adequacy	Demonstrates basic competency behaviors that respond directly to specific events, inputs, and situations encountered	Average performance
2	Undeveloped	Does not demonstrate the basic behavior that defines the competency	No effect on performance
1	Limitation	Use behavior that represents negative, counter-productive manifestations of the competency	reduces performance

TABLE 6 Conceptual flexibility rating scale

Rating	Descriptor	Observed behavior	Outcome
5	Strategic strength	In addition, sets up strategies or processes to envision and compare alternative options; gets others to identify and evaluate the pros and cons of different options	Perpetuates high performance
4	Strength	In addition, compares alternative paradigms, concepts, perspectives, strategies or plans by simultaneously and rationally analyzing the pros and cons of each	High performance
3	Adequacy	Demonstrates viewing problems, issues or situations from two different perspectives; generates alternate conception or options about major problems, issues or situations and holds them simultaneously	Average performance
2	Undeveloped	Views problems, issues or situations from different perspectives serially; that is, at different times. Not considered simultaneously	No effect on performance
1	Limitation	Adopts and/or supports the adoption of a single perspective or option; rejects alternate perspectives or options without due analysis	Reduces performance

business units will provide the leaders of those units with different levels of managerial discretion and, as a result, different capacities to impact performance. This ought to influence the level of executive reward, the level of leadership competence required, and the way leadership talent is allocated. Fourth, it is probable that highly effective leaders change the level of managerial discretion provided by their external and organisational environments; indeed, this may be a key differentiator of high performers. This phenomenon and the H-PC that contribute to it deserve more attention. Lastly, managerial discretion may provide a way of integrating the multiple theories of situational leadership that have abounded since the work of pioneers like Fiedler (1967) as well as Hersey and Blanchard (1969). Such an integration is much needed and would improve the clarity of research and practice considerably.

In summary, the importance of leadership to performance outcomes has resulted in extensive efforts being made to identify individual characteristics that underpin leader effectiveness. Alongside studies into the intelligence and personality of leaders, a long-term, international stream of research has focused on observable and learnable behaviors. Having surveyed all the major research initiatives reporting validated leadership behaviors, a content analysis was made to establish a comprehensive model of discrete and maximally differentiated behaviors. This synthesis produced eleven H-PC sub-divided into four clusters (Thinking, Developmental, Directional and

Achieving) that, it was hypothesized, are positively and significantly related to leader effectiveness. To facilitate reliable measurement, each H-PC was defined precisely and specified at five levels of capability (ranging from “Limitation” to “Strategic Strength”) via a behaviorally anchored rating scale. These definitions and scales enabled the training and certification of a core pool assessor who conducted ongoing research. At this stage, the construct and criterion-related validity of the H-PC remained open questions. In consequence, an H-PC research group used Workshadowing and Assessment Centers of leading-edge design to collect observed behavior data so that the validity of the H-PC could be tested, see the Cockerill and Satish (2021) paper in this issue. Even after this work was completed two comments should be made.

First, how comprehensive are the H-PC? Are critical behaviors missing? Two possibilities come to mind: (i) As stated above, effective leadership behaviour appears to differ significantly between normal and crisis conditions; furthermore, mechanistic versus organic organizational designs, see Burns and Stalker (1961), appear to demand different behavioral capabilities. Could there be a “meta competency” which enables leaders to tailor their behavior appropriately to the prevailing situational conditions? (ii) Goleman (1995) and others have highlighted the importance of emotional intelligence; could there be an emotional H-PC that enables leaders to foster positive emotional states in the people they manage?

The second comment relates to ease of measurement. H-PC assessment that gathers data via Workshadowing and AC is resource-consuming; as yet, to the author's knowledge, there is no economical method of reliably assessing the full range of H-PC that delivers equally good or better validity. Consequently, scalability is severely restricted. New assessment techniques based on SMS methodology are moving in this direction using advances in the field of information technology and these should be encouraged, see the Cockerill and Satish (2021) paper in this issue.

To conclude, long-term international research supports the notion that leaders have a significant and situationally moderated effect on the performance of social entities. Furthermore, a comprehensive set of differentiated behaviors—the High-Performance Competencies—has been established to help explain how the leader effect occurs. The improvement and extension of both the managerial discretion concept and the assessment of H-PC appear justified and necessary. As this paper shows, Professor Siegfried Streufert, who helped to formulate and empirically explore Behavioral Complexity Theory at Princeton University and pioneered the use of SMS Technology, made a significant contribution to this endeavour through the development of the H-PC.

PATIENT CONSENT STATEMENT

Patient consent was not required for this study.

PERMISSION TO REPRODUCE MATERIAL FROM OTHER SOURCES

This paper summarizes previously published research.

CONFLICTS OF INTEREST

The authors have declared no conflicts of interest for this article.

DATA AVAILABILITY STATEMENT

Data from this study has not been made publicly available.

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