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Factor analysis of global trends in twenty-first century leadership

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Abstract

Purpose – The purpose of this study is to examine whether the nature of leadership in the early years of the twenty-first century as conceptualized in the research literature is valid among real organizational leaders across four global regions.

Design/methodology/approach – A literature review of recent scholarly articles suggested that today's leadership best practices can be sorted into six categories, or zones: Reflection, Society, Diversity, Ingenuity, People, and Business. These six zones became topics for focus groups of organizational leaders that tentatively supported the six-zone structure and provided qualitative data used to create a 42-item measure, the AchieveGlobal Leadership Scale (AGLS). The AGLS was then employed to examine the degree to which 899 leaders in Asia, Europe, Latin America, and the USA felt that each zone was important in meeting their organizational challenges.

Findings – The data from the 42 items were analyzed using a confirmatory factor analysis, which suggested that the six zones all triangulated on and comprised the larger construct, Leadership in the twenty-first century. Regional differences emerged in the importance that leaders attributed to the zones, in the degree to which leaders effectively demonstrated the zones, and in the order in which leaders ranked their organizations' top business challenges.

Originality/value – The six-zone model of leadership and its differences by geographic region hold potential to help leaders examine and improve their own leadership abilities.

Keywords Global leadership, Organizational challenges, Zones of leadership, Leadership, Corporate strategy

Paper type Research paper

The corporate world has experienced profound changes in the early years of the twenty-first century. Countless challenges in a rising global economy have forced leaders worldwide into uncharted territory and have perhaps redefined what leaders must do in order to navigate their organizations toward success. Given these corporate realities, leaders may have to adapt their past understandings of what effective leadership means, and need renewed focus on the issues confronting leaders and the

skills that make successful leadership more likely. These issues, along with considerations from earlier research on leadership qualities and principles, provided a foundational conceptualization for the current study.

The purpose of this study was to examine the nature of leadership in the early years of the twenty-first, century given the backdrop of a dynamic corporate climate. Two research questions guided this study:

(1) What specific practices constitute effective twenty-first century leadership?

(2) How effectively do twenty-first century leaders apply the identified practices to meet their organizational challenges?

The first component of this study was to review the published research on leadership primarily over the past several years in order to paint a comprehensive picture of how the current literature sees leadership as a construct. The second component of this study was to determine whether real organizational leaders worldwide agree with the notions of leadership espoused in the research literature. The strength of this research design was that it allowed inclusion of participant feedback at every phase of the investigation, therefore building a discursive definition of leadership in the twenty-first century, allowing multiple voices to contribute to the final understanding of the challenges and practices involved. This research was guided by the belief that analysis of twenty-first century leadership concerns among real-world organizational leaders could aid in developing a model highlighting the key focus points for other leaders.

Literature review

The literature review involved using Elton B Stephens Company's (EBSCO) Host search engine and Google Scholar to identify articles in leadership, management, and organizational journals over the two years (2007-2008) before the current study's data collection that addressed the distinct qualities embodying the construct of leadership. A citation map approach was used, whereby a small number of the references in articles from this time period were also used to inform the current model of leadership. Through this literature review, a number of key business and leadership themes emerged, forging conceptualizations of the major business issues affecting leaders and of the skills that leaders need to address these issues. This review formed the basis for a provisional leadership model composed of six zones of leadership (see Figure 1), which are each addressed in turn in this literature review. It should be noted that the six-zone model of leadership in this article is not new in the sense that it articulates novel aspects of leadership. This literature review purposely draws from the published (primarily recent) literature to discuss what theorists and researchers have already said about the various dimensions of leadership. The six-zone model is new, however, in that it integrates the various and disparate facets of leadership already articulated. The names of these zones may be different from those of aspects of leadership identified in the early stages of leadership theory's history, but the terminology in this article better reflects the terminology in the current literature, especially in articles published from 2007-2008.

Reflection

In this zone, leaders assess their own motives, beliefs, attitudes, and actions. Reflective leaders look within and ask, "How can I make sure my own blind spots and biases
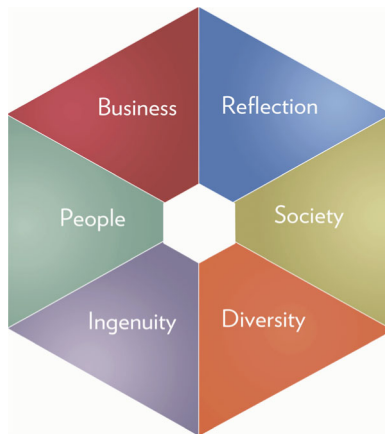
don't cause me to make poor decisions?" and "How can I leverage my strengths to become a better leader?" Reflection helps leaders avoid pitfalls in other zones, make the most of honest feedback, recognize the limits of their knowledge, and avoid repeating their mistakes. When leaders see their mistakes as a chance learn and grow, they gain the ability – and credibility – to help others adopt the same attitude and related practices.

A number of recent scholarly articles have highlighted the importance of reflective thinking. Nelson (2008) used a historical and literary approach to this topic and analyzed the types of leadership represented in the character Odysseus in Homer's the *Iliad* and the *Odyssey*, and the character Aeneas in Virgil's the *Aeneid*. Although Odysseus is often portrayed more positively in popular culture, Nelson notes that Aeneas achieved greater success by providing a safe passage for most of his followers (all of Odysseus's 600 men perished) and by successfully working to establish a new home for his people on arrival in Italy. Along with elevating public responsibility over his personal preferences and cultivating subordinate leadership, Aeneas's greatest strength was his ability to reflect on his role as leader and on how his style negatively affected those around him.

Being a reflective leader is likely composed of emotional intelligence and a sincere motivation to examine oneself. Emotionally intelligent leaders tend to achieve greater career success and display greater leadership ability and better adaptability in an unpredictable workplace (Jamali *et al.*, 2008). Those who self-reflect may be more likely to identify negative self patterns, such as hubris, stubbornness, and unwillingness to seek new knowledge (Ford, 2006). Additionally, individuals with reflective capability and motivation will likely achieve greater success during career transitions, such as entering the second half of one's work life (i.e. after age 45; Buford, 2007). The reflective leader, who has the emotional intelligence to reflect and the motivation to do so, may be able to achieve what Crossan *et al.* (2008) label "leadership of self." As one component of "transcendent leadership," the leadership of self involves knowing oneself, remaining open to change, and obtaining a high level of cognitive and moral complexity. Reflection seems to be a critical skill for achieving this state.

Society
In this zone, leaders apply principles such as fairness, respect, and "the greater good" to balance individual and group welfare. Here, leaders attend to economic, environmental, and ethical matters that affect the larger society. Recent unethical business practices with worldwide consequences highlight the need for leaders to serve and encourage others to serve a larger good. While every leader must achieve short-term goals, socially aware leaders know that some short-term goals sabotage the long-term health of the organization, the society, and the environment.

Evidence is mounting that organizations that emphasize social responsibility reap a host of benefits, including more productive and satisfied employees, stronger ties to the community, and greater corporate visibility (McWilliams and Siegel, 2001). Conversely, destructive work environments often reflect leaders who exhibit a selfish orientation (Padilla *et al.*, 2007). For these reasons, the complete global leader will likely seek out opportunities to serve the greater good. This effort may include, but is not limited to, providing needed services to those in the local community, collaborating with other organizations to promote social justice, establishing educational programs for potential future employees, and incorporating the needs of society into long-term corporate goals (Edersheim and Wynett, 2008; Hesselbein, 2008a; Vail, 2007). Blake (2006) discusses the ideal journey of social responsibility taken by corporations, moving from protecting their own company, to building the greater community around them, and finally being an innovator in managing long-term, permanent bonds with the community.

Diversity
In this zone, leaders value and leverage human differences, including gender, ethnicity, age, physical and mental ability, culture, beliefs, and work styles. Here, leaders prove their ability to work with diverse people and appreciate cultural perspectives. This ability to derive value from human differences is a core skill for twenty-first century leaders. A global workforce requires a leader's awareness of cultural nuances; a dispersed workforce requires structured yet flexible leadership; a diverse workforce requires tailored collaboration and coaching. All these tasks require leaders to balance their own strong identity with their daily effort to understand people very different from themselves.

The importance of a leader's ability to navigate and thrive in a diverse work environment cannot be over-estimated. Most organizations provide diversity training, which can result in increased diversity self-efficacy and intentions to pursue diversity initiatives (Combs and Luthans, 2007). Scholars have proposed a number of factors that allow for greater diversity-related leadership. These include an authentic curiosity about those different from oneself, an openness to cultivate diverse relationships, a recognition of similarities and differences among individuals, self-awareness of one's own cultural background, and a belief in the positive outcomes associated with a diverse workplace (Abbott *et al.*, 2006; Handin and Steinwedel, 2006). Researchers have also encouraged leaders to promote activities that lead to feelings of inclusion among diverse employees, including a central focus on trust-building and a commitment to quick and effective resolution of racial conflict (Byrd, 2007; Wasti *et al.*, 2007). Leaders skilled in diversity issues provide much needed value to the ever-globalizing marketplace.

Ingenuity
In this zone, leaders offer and execute practical ideas, and they help others do the same by creating a climate in which innovation thrives. Ingenuity is the currency of success in a capricious global economy. Closely allied is the ability to manage the changes on both business and human levels implied in every innovation. Ingenuity is vital as well to helping groups develop a motivating vision of future success.

As a category of skills and attitudes, ingenuity is often associated with some of the most successful business leaders, such as Bill Gates, Steve Jobs, and Warren Buffett. Ingenuity involves an ability to be forward thinking and creative, developing business ideas before others do, or solving business problems before most even knew they existed. The Leader to Leader Institute, which works to train emerging young leaders, heralds innovation as a key to effective management (Hesselbein, 2008b). In his book chapter on creativity and leadership, Simonton (2008) notes that the most innovative individuals tend to be in the top 10 percent of intelligence, tend to be able to easily integrate complex tasks and ideas, have expansive imaginations, are highly open to new experiences, and have some early experience with influential mentors. The ability for business leaders to demonstrate ingenuity seems particularly important as models of organizational practice evolve and as leaders are confronted with increased challenges, such as a more diverse workplace and a greater need for employees to balance work and family commitments (Dunford *et al.*, 2007; Forsyth and Polzer-Debruyne, 2007).

People
In this zone, a leader's ability to connect with others on a human level realizes enormous benefits, including improved communication of every kind. Leadership in part is getting work done through others – a real challenge without the skill and zeal to engage people in a team effort. Leaders effective in this zone inspire trust and loyalty, weather difficulties through a wide support network, soften the human impact of hard decisions, and encourage shared commitment to business goals.

Of the six zones uncovered through the literature review, this was the most researched and discussed. In today's global marketplace, it is absolutely essential to work effectively with others. When leaders are asked about challenges in the workplace, relationship issues with other employees tend to be the most noted concern (Brotheridge and Long, 2007). These relationships form the basis for the leader-member exchange (LMX; Graen and Uhl-Bien, 1995; Piccolo *et al.*, 2008), which in its best form is characterized by trust, respect, and a sense of mutual obligation (Hui *et al.*, 2008). Indeed, LMX tends to be correlated with lower turnover intentions, greater employee satisfaction, work obligation, job commitment, satisfaction with supervision, and job performance and competence (Gerstner and Day, 1997; Golden and Veiga, 2008; Piccolo *et al.*, 2008; Sparr and Sonnentag, 2008).

The LMX is particularly dependent on the ability of a leader to be fair and trustworthy. Employees who perceive their leaders and/or organizations as having these qualities are more satisfied with their jobs, are more committed to their work, have better job performance, display more behaviors reflecting organizational citizenship, view management as more effective, and display fewer deviant behaviors (Caldwell and Hayes, 2007; Everton *et al.*, 2007; Ilies *et al.*, 2007; Janson *et al.*, 2008; Mayer *et al.*, 2008; Suliman, 2007; van Knippenberg and De Cremer, 2008;

van Knippenberg *et al.*, 2007). To display fairness and gain trust, leaders are encouraged to maintain open lines of communication, be transparent and consistent, be courteous about employee concerns, and have a set system of rewards (Caldwell and Hayes, 2007; Everton *et al.*, 2007; van Knippenberg and De Cremer, 2008). When leaders are able to combine these activities with other people-related characteristics such as charisma, empathy, and emotion management, they will be best prepared to lead in the global marketplace (Campbell *et al.*, 2008; Hartel *et al.*, 2008; Zimmerman *et al.*, 2007).

Business
In this zone, leaders develop strategies, make and execute plans and decisions, organize the work of others, and guide effort toward predicted results. Yet twenty-first century challenges demand more than textbook formulas. Beyond the hard skills of analyzing data and managing costs, leaders must respond quickly to threats and opportunities, a skill that requires close attention to key trends and events. Still vital is a leader's ability to shape the customer's experience, but also to cultivate that customer's lifetime value.

Simply put, a leader needs a high level of business acumen. In today's business environment, this acumen is not static knowledge, but rather the ability to help the organization adapt and grow in the face of uncertainty (Plowman *et al.*, 2007). Leaders with business acumen will be knowledgeable about the past in order to set a vision for the future and anticipate potential roadblocks (Boal and Schultz, 2007). Leaders will be up to date on trends in the global workforce (Van Horn, 2006) and work diligently in spite of adversity. In studying successful CEOs, Wood and Vilkinas (2007) noted that these individuals tend to be empathic, achievement-oriented, and optimistic.

The current study
It was vital that the six zones of leadership identified in the research literature be empirically tested with real-world organizational leaders across several major global regions. The purpose of the current study was to examine whether the six-zone model of twenty-first century leadership accurately captured the nature of real-world leadership.

Method
Participants
The sample was composed of 899 organizational leaders from four global regions: Asia (100 participants from China, 99 from India, and 100 from Singapore), Europe (98 participants from Germany and 100 from the UK), Latin America (102 participants from Mexico), and the USA (300 participants). Participants' industries appear in Table I. These participants were recruited by contracting with a company specializing in international survey administration. Participants recruited in the targeted global regions were paid a nominal fee by this organization to participate in the current study by completing a quantitative survey.

Participants described their organizational role: 27.3 percent had no formal direct reports, 28.1 percent managed first-line associates, 12.5 percent managed first-line managers or supervisors, 9.5 percent managed the managers of first-line managers or supervisors, 12.8 percent managed one or more major areas of the organization, and 9.9 percent managed the entire organization. Though 27.3 percent of the sample reported having no direct reports, it should be noted that direct reports are not a requirement to

Industry	Percent of sample
Education	8.5
Health care	7.7
Retail	5.9
Government	5.0
Computer software	4.9
Computer services	4.7
Business services	4.4
Industrial manufacturing	4.3
Construction	4.1
Financial services	4.1
Banking	3.3
Transportation services	3.0
Telecommunications services	2.6
Chemicals	2.1
Consumer services	2.1
Electronics	2.1
Automotive and transport	2.0
Energy and utilities	1.7
Consumer products manufacturers	1.6
Computer hardware	1.4
Media	1.4
Real estate	1.4
Aerospace and defense	1.3
Insurance	1.1

Notes: Thirty-six industries were represented in the sample, but only industries that comprised at least 1 percent of the sample appear in this table. Of participants 12.2 percent indicated "Other" for their organization's industry

Table I.
Industries of leaders in
sample by percent

be a leader, and informal leaders without direct reports exist in all organizations. In terms of number of supervisees, 21.7 percent of participants reported supervising 0 employees, 26.8 percent supervised one to five employees, 13.3 percent supervised six to ten employees, 12.9 percent supervised 11-20 employees, 6.8 percent supervised 21-30 employees, 5.6 percent supervised 31-40 employees, and 12.9 percent supervised more than 40 employees. Participants reported the amount of time they had been working at their current level: 24.6 percent had been working there for fewer than two years, 39.8 percent for two to five years, 20.8 percent for six to ten years, and 14.8 percent for more than ten years.

Participants described their organization with respect to the scope of operations: 36.8 percent were from organizations with a domestic scope (only one country), 17.6 percent with a regional scope (one global region), 20.6 percent with a multi-regional scope (several global regions), and 25.0 percent with a global scope (all major world regions). In terms of organization size, 36.8 percent of participants were from organizations with fewer than 500 employees globally, 13.2 percent with 500-999 employees, 21.2 percent with 1,000-9,999 employees, 11.2 percent with 10,000-24,999 employees, 5.1 percent with 25,000-49,999 employees, 4.9 percent with 50,000-100,000 employees, and 7.5 percent with more than 100,000 employees. Participants reported their organization's approximate 2008 worldwide revenue: 43.6 percent were from

organizations that had earned less than $50 million, 20.5 percent that had earned $50-250 million, 15.0 percent that had earned $250-500 million, 8.6 percent that had earned $500-1 billion, and 12.3 percent that had earned more than $1 billion.

Procedure
The sample of global leaders completed the survey online. They first entered a code that they had received in their invitation email in order for them to receive their incentive. This code was not linked to the rest of the data, so their responses were anonymous. They then provided information on their organization's industry, geographic scope of operations, number of employees globally, and approximate 2008 worldwide revenue. They reported the country in which they worked, their current leadership role within the organization, the length of time they had been at their current level, and the number of employees they supervised.

In order to prime participants, they were then asked to select the top five most pressing challenges that their organization would face over the next one to five years from a list of 27 potential organizational challenges that had been generated from two focus groups with two dozen organizational leaders. These focus groups are detailed in the "Measures: AchieveGlobal Leadership Scale (AGLS)" section which follows. Participants then completed the AGLS twice, once rating how important they thought the six zones of leadership were and once rating how effectively leaders in their organizations demonstrated those zones.

Measures
AchieveGlobal Leadership Scale (AGLS). In order to test whether the six-zone model of leadership derived from the literature review was applicable to real-world leaders, two focus groups were conducted. Focus-group participants were 21 managers and senior managers, representing a range of private industries and public agencies in Florida. Focus-group participants were recruited by a commercial research organization and received an incentive for their involvement. The two focus-group events, each 2 hours in length, were conducted in commercial focus-group facilities in Jacksonville, Florida, and Tampa, Florida. Participants were not informed that the research was conducted under the auspices of AchieveGlobal. A member of the AchieveGlobal research team followed a detailed moderator's guide to conduct group discussion of the themes extracted from the literature review in the current study. These themes included, but were not limited to, complex adaptive systems, cross-cultural leadership, decentralization, fairness, introspection, leadership types, organizational citizenship, organizational climate, organizational justice, social responsibility, storytelling, and teams.

During each focus-group event, a multi-media presentation was shown to participants to summarize a preliminary model composed of the six zones of leadership that emerged from the literature review. After the multi-media presentation, participants responded through group discussion to three primary questions:

(1) What current challenges are you facing as a leader in your organization?

(2) What knowledge, skills, and abilities do you think leaders need in order to address these challenges?

(3) How accurately does the six-zone model describe effective leadership in the twenty-first century?

Some representative participant responses from the focus-group discussions on the six-zone model of leadership included:

- *On Reflection*:

  A person really needs to have a personal perspective on how they look at leadership. There's layers of a person's character, their behaviors, or their attributes that make them an effective leader. Not just one attribute is going to do it.

- *On Diversity*:

  I like that because [. . .] my management style with people from the United States might be effective, but if I were to go to a different cultural setting, their expectations of my style might be different. I've got to be aware that somehow I've got to make sure that my style doesn't get in the way of being effective in different cultural settings.

- *On Ingenuity*:

  Being creative is to get the people out of their comfort zones. Try to encourage them to think outside the box [. . .] and support them in doing that.

- *On Ingenuity*:

  Creativity is more of a dynamic environment [. . .] where you explain that it's not just being creative, i.e. artistic, but it's being dynamically creative based on the situation or problem you're trying to solve.

- On the connection between People and Ingenuity:

  In today's twenty-first century you create an environment where you allow people to be open, allow them to present ideas [. . .] Throw a 100 ideas on the table, maybe you can get five of them that's really going to work.

- On the six-zone leadership model:

  I think it's a good bridge from traditional leadership to more modern leadership. When you think of leadership in the basic sense, you're thinking of someone who has been in that role for a long period versus someone relatively young. You're taking those archaic traits and trying to mold them to today's workforce, moving your strategic plans into the workforce [. . .] So, the static organizational chart, which we're so familiar with, that's not really the way it works anymore. [This model] gives a greater understanding for moving that leadership role into a more modern environment, and addressing the world issues at hand.

The challenges and skills identified in the focus groups were then combined with themes under the six zones from the secondary literature review to create a 42-item measure of leadership in the twenty-first century, with six subscales pertaining to each of the six zones (see Table II). Seven items were generated for each zone and refined to map more precisely to each zone. In the quantitative component of the study, the 899 participants read the following directions before responding to the 42 items of the AGLS using a 1 (Not at all Important) to 7 (Very Important) Likert-type scale: "You will see a total of 42 statements grouped under six 'leadership dimensions.' Each statement describes one ability that a leader might possess. Please rate the *importance* of each leadership ability in meeting the business challenges of the next three years." After responding to the 42 items, participants then read the following directions, before responding a second time to the 42 items of the AGLS: "You will see a total of 42 statements grouped under six 'leadership dimensions.' Each statement describes one ability that a leader might possess. Please rate *how effectively* leaders in your organization now demonstrate each of these abilities." All items within a subscale were

Dimension 1: Reflection

1	Model lifelong learning
2	Treat failure as a chance to learn and grow
3	Accept responsibility for their own mistakes
4	Seriously consider views that challenge their own views
5	Seek the knowledge needed to make sense of the big picture
6	Look within yourself for possible causes of your challenges as a leader
7	Speak with others frankly to learn, build trust, and know yourself

Dimension 2: Society

8	Act ethically to obey the law and serve the larger good
9	Openly challenge unethical decisions and actions
10	Exhibit fairness and self-sacrifice in your decisions
11	Advocate steps to reduce environmental harm.
12	Help shape values and vision in the organization
13	Encourage others to take socially responsible action
14	Take action to benefit others, not just yourself

Dimension 3: People

15	Adapt to the leadership needs of different groups
16	Consider the human impact of your decisions and actions
17	Build and maintain a cross-functional task network
18	Show sensitivity to a range of emotions in others
19	Build the self-esteem of people at all levels
20	Help employees resolve issues of work-life balance
21	Inspire the trust within the organization and among customers and partners

Dimension 4: Ingenuity

22	Create an environment in which innovation can thrive
23	Help groups develop a shared picture of a positive future
24	Help people adapt quickly to change
25	Develop sustainable competitive strategies
26	Tell stories to guide change and reduce conflict
27	Trim bureaucracy to promote speed, flexibility, and innovation
28	Develop yourself with the goal of improving group capabilities

Dimension 5: Diversity

29	Effectively lead cross-cultural groups
30	Accept and collaborate with diverse people
31	Create and implement sound global business strategies
32	Appreciate the business practices of other cultures
33	Strive to meet the needs of global customers.
34	Adapt to other cultures during any assignments abroad
35	Manage virtual teams with explicit customer-centric goals and practices

Dimension 6: Business

36	Add clarity to the strategic vision of future success
37	Manage the costs of operation
38	Manage customer acquisition, retention, and lifetime value
39	Adapt to rapidly-changing business conditions.
40	Analyze data, including metrics, to achieve results
41	Acquire knowledge and skills to make the business competitive
42	Represent the values and vision of your team and organization

Table II.
AchieveGlobal leadership scale items

straight-summed to produce subscale scores within the "Importance" and "Effectiveness" versions of the AGLS. "Importance-Effectiveness Discrepancy" scores were also calculated by subtracting each "Effectiveness" subscale score from the respective "Importance" subscale score.

The Cronbach's α's for the "Importance" component of the Reflection, Society, People, Ingenuity, Diversity, and Business AGLS subscales in the current study were 0.92, 0.92, 0.92, 0.92, 0.93, and 0.94 respectively, with a total "Importance" score α of 0.98. The Cronbach's α's for the "Effectiveness" component of the Reflection, Society, People, Ingenuity, Diversity, and Business AGLS subscales in the current study were 0.94, 0.93, 0.95, 0.94, 0.95, and 0.94, respectively, with a total "Effectiveness" score α of 0.99.

Challenges Checklist. In order to prime participants, they were asked to select the top five most pressing challenges that their organization would face over the next one to three years. The checklist was composed of the following challenges that emerged from the literature review for this study: cost pressures, competitors, improving customer satisfaction, technology challenges, driving sales growth, employee productivity, and product/service innovation. The checklist also contained the following challenges that surfaced as discussion themes in the focus groups: velocity of change, resource management, diversity in the workforce, lack of trust between management and employees, finding talent (the right people), creating virtual workplace structures, boosting quality and morale levels based on current conditions, ethical issues in the workplace, performance management appraisals, gaps in leadership development, job risk management, lack of creativity and problem solving, generational gap integration in the workforce, global cultural problems, and resistance to change.

Data Analysis Plan

Confirmatory Factor Analysis. To determine whether the theorized six-factor structure of the AchieveGlobal Leadership Scale (AGLS) fits the patterns in the data, a confirmatory factor analysis (CFA) will be performed on the "Importance" AGLS responses from the 899 participants.

MANOVAs. Three multivariate analyses of variance (MANOVAs) will be run in order to examine whether global regional differences exist in the importance that participants attribute to the six zones of leadership, in the degree to which leaders effectively demonstrate the six zones of leadership, and in the magnitude of discrepancy between the degree to which participants attribute importance to a particular zone of leadership and the degree to which participants feel that other leaders in their organizations effectively demonstrate that zone of leadership. In these MANOVAs, the predictor variable will be global region (four levels = Asia, Europe, Latin America, and the USA) and the criterion variables will be either the six AGLS "Importance" subscale scores (MANOVA 1), the six AGLS "Effectiveness" subscale scores (MANOVA 2), or the six AGLS "Importance-Effectiveness Discrepancy" subscale scores (MANOVA 3). If the omnibus F-statistic in any of the three MANOVAs is significant, follow-up Bonferroni-corrected t-tests will be employed to determine the precise locations of mean differences among the different global regions.

For the MANOVAs, the statistical software G*Power was used to compute the sample size needed in order to have sufficient statistical power. With a MANOVA containing 1 predictor variable (four levels) and 6 criterion variables, a sample size of

226 participants would be needed to detect a small (Cohen, 1988) multivariate effect, 95 for a medium, and 63 for a large effect. Therefore, if the omnibus multivariate effect is small, medium, or large, the current sample size will be sufficient.

Correlations. A number of exploratory Pearson product-moment correlations will be run among the six "Importance" AGLS subscale scores and several demographic variables: organizational geographic scope of operations, number of employees globally, approximate 2008 worldwide revenue, participant current leadership role within the organization, length of time at current level, and number of employees supervised. The purpose of these exploratory analyses will be to determine whether leaders at different roles in an organization or in organizations of different size and scope attribute different degrees of importance to the six zones of leadership.

Results

Factor Structure of Leadership in the twenty-first century

A confirmatory factor analysis (CFA) was conducted using AMOS 7.0 to test the fit of the AchieveGlobal Leadership Scale's (AGLS) six-factor structure. These data were from the "Importance" component of the AGLS. The manifest variables in the CFA were the 42 items from the ALGS, whereas the seven latent constructs were the six subscales of the AGLS and the one higher-order construct "Leadership in the twenty-first century." The model was composed of 97 variables (97 estimated parameters), of which 42 were observed, 42 were uniqueness terms, six were disturbance terms, and seven were factors. The factor loadings (standard regression weights) for this model appear in Figure 2. All of the scale items loaded significantly
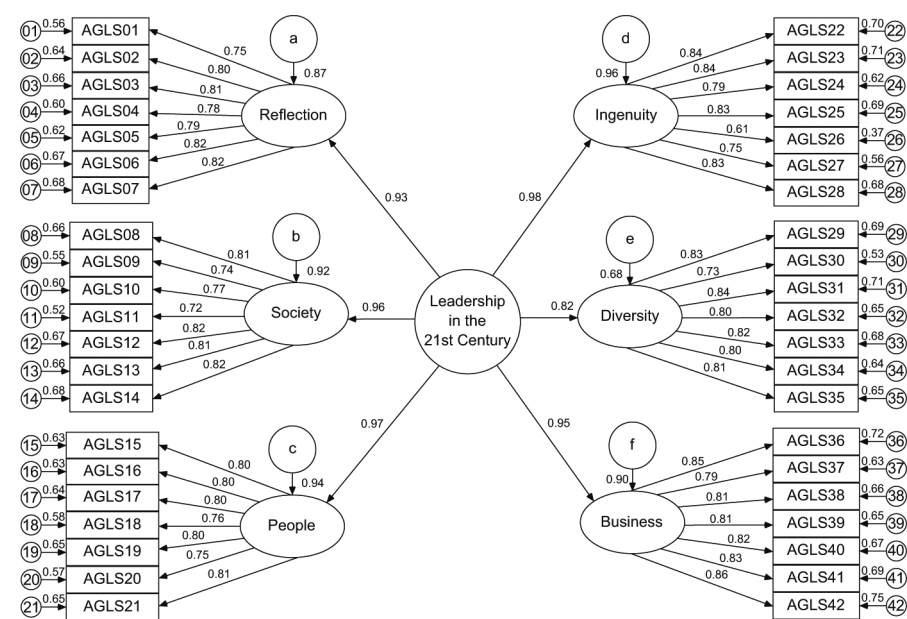
Figure 2.
Confirmatory factor analysis of the six zones of leadership

Note: Uniqueness terms are labeled "01-42," and disturbance terms are labeled "a-f"

onto their respective first-order factors, and all six of the first-order factors loaded significantly onto the higher-order factor, "Leadership in the twenty-first century," all ps < 0.001.

Tests of normality revealed that none of the 42 items' distributions were significantly skewed (critical ratio magnitude range from -0.60--1.04, where absolute values of more than 2 represent univariate non-normal distributions). Also, none of the 42 scale items were significantly kurtotic (critical ratio range from -0.01-1.27). A Mardia's coefficient of 1469.72 (with a critical ratio of 363.43) suggested that the variables were significantly multivariate kurtotic, but this estimate was likely inflated due to the large sample size of 899 participants. The data had a slight left skew and slight leptokurtic distribution due to the high endorsement of the six zones of leadership as important, but this small deviation from normality was unlikely to influence the CFA or the other analyses.

The uniqueness terms for each measured scale item and disturbance terms for each of the six first-order latent constructs in the model were all significant (all ps < 0.001), suggesting that an amount of variance greater than 0 in each scale item and first-order construct was left unaccounted. The χ^2 goodness-of-fit test failed to provide initial evidence that the six first-order-factors and one second-order-factor solution fit the data well, $\chi^2(813) = 2804.53, p < 0.001$, because the ratio of the χ^2 statistic to the degrees of freedom in the model was 3.45 and higher than the conventional critical ratio cutoff of 2.0. This significant χ^2 test was likely a result of the large sample size employed in the CFA and is probably not a good estimate of fit.

Other evidence, however, generally supported that the model was an adequate fit for the data. The goodness of fit index (GFI) was 0.86, suggesting adequate fit. The adjusted goodness of fit index (AGFI) and the normed fit index (NFI) were 0.84, and 0.92, respectively, where values of 0.90 or higher indicate an adequate fit. Similarly, the incremental fit index (IFI), Tucker-Lewis index (TLI), and comparative fit index (CFI) were 0.94, 0.94, and 0.94, respectively, where values close to 1.0 indicate good fit and values above 0.90 indicate adequate fit. The current model produced a root mean square error of approximation (RMSEA) of 0.05, where an RMSEA of 0.08 or less indicates adequate fit and an RMSEA of 0.05 or less indicates good fit. The model also produced a Hoelter Index of 292 at the 0.01 level, an indication of good fit, meaning that if there were 292 participants, the model would not have a statistically significant χ^2 statistic. These fit indices were for the most part in the adequate or good ranges and suggest that the model of leadership composed of the six factors in the current study fits the data adequately.

Global differences in leadership

Three multivariate analyses of variance (MANOVAs) were run to examine whether global regional differences exist in the importance that leaders attributed to the six zones of leadership, in the degree to which leaders effectively demonstrated the six zones of leadership, and in the magnitude of discrepancy between the degree to which leaders attributed importance to a particular zone of leadership and the degree to which leaders felt that other leaders in their organizations effectively demonstrated that zone of leadership.

Importance of the Six Zones. In the first MANOVA, the predictor variable was global region (four levels = Asia, Europe, Latin America, and the United States) and

the criterion variables were the six AGLS "Importance" subscale scores. The *Box-M* test for homogeneity of the variance-covariance matrices across design cells was significant, $Box\text{-}M = 264.12$, $F(63, 583973.81) = 4.13, p < 0.001$, indicating a multivariate violation of the homogeneity of variance assumption. Additionally, five of the six Levene's tests were significant (ps ranging from < 0.001-0.049), failing to provide univariate support for the homogeneity of variance assumption. Taken together, these findings suggest that a more conservative estimate of F-statistics should be used, such as Pillai's Trace.

The overall omnibus MANOVA revealed a statistically significant effect for global region, $F(18, 2676) = 8.06, p < 0.001, \eta^2 = 0.051$, Pillai's Trace = 0.154. As a result, follow-up Bonferroni-corrected t-tests were performed within each AGLS subscale to identify regional differences in the importance attributed to each zone of leadership. The average "Importance" scores on the AGLS's six zones by global region appear in Table III. These follow-up t-tests found that European leaders generally rated all six zones as less important than leaders did from the other global regions (all ps < 0.001), with the exception of Reflection as compared to Latin-American leaders, where there was no significant difference. The only other significant differences were that Asian leaders rated Diversity as more important than US leaders did, and US leaders rated Reflection and Society as more important than Latin-American leaders did.

Effectiveness in the Six Zones. In the second MANOVA, the predictor variable was global region (four levels = Asia, Europe, Latin America, and the United States) and the criterion variables were the six AGLS "Effectiveness" subscale scores. The *Box-M* test for homogeneity of the variance-covariance matrices across design cells was significant, $Box\text{-}M = 294.32$, $F(63, 583973.82) = 4.60, p < 0.001$, indicating a

	Asia		Europe		Latin America		USA	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Importance Zone								
Reflection	39.46	7.97	35.61	8.08	37.51	7.80	40.22	6.72
Society	39.26	7.83	35.15	8.30	37.88	7.51	40.15	7.11
People	39.60	7.30	35.54	8.49	38.95	7.70	39.72	7.03
Ingenuity	39.95	7.56	35.20	7.77	38.86	7.38	39.27	6.56
Diversity	39.56	7.33	33.55	9.30	38.68	8.14	36.73	8.48
Business	40.92	7.53	36.22	8.58	39.88	8.17	40.69	6.74
Effectiveness Zone								
Reflection	37.95	8.34	34.31	8.20	37.09	8.32	35.51	9.42
Society	37.55	8.27	33.64	8.84	35.76	9.22	35.42	8.92
People	37.52	8.12	33.03	8.98	34.83	10.72	34.23	9.58
Ingenuity	37.51	8.30	33.41	8.34	34.89	9.91	33.80	9.26
Diversity	37.89	7.82	32.65	9.26	36.39	9.30	33.54	9.20
Business	38.71	7.93	33.76	8.48	37.05	9.41	35.75	8.46
Discrepancy Zone								
Reflection	1.51	7.96	1.30	7.10	0.42	8.27	4.72	9.57
Society	1.71	7.07	1.52	7.37	2.12	8.35	4.73	8.88
People	2.08	7.26	2.51	7.85	4.12	10.13	5.49	9.72
Ingenuity	2.44	7.29	1.79	7.02	3.97	9.36	5.48	9.00
Diversity	1.67	6.15	0.90	6.48	2.28	9.36	3.19	8.60
Business	2.21	6.88	2.46	6.31	2.83	9.04	4.94	8.21

Table III.
AchieveGlobal
Leadership Scale Means
and Standard Deviations
by Global Region

multivariate violation of the homogeneity of variance assumption. Additionally, three of the six Levene's tests were significant (ps ranging from <0.001-0.018), failing to provide univariate support for the homogeneity of variance assumption. Taken together, these findings again suggest that a more conservative estimate of F-statistics should be used.

The overall omnibus MANOVA revealed a statistically significant effect for global region, $F(18, 2676) = 5.45, p < .001, \eta^2 = 0.035$, Pillai's Trace $= 0.106$. As a result, follow-up Bonferroni-corrected t-tests were performed within each AGLS subscale to identify regional differences in the degree to which leaders effectively demonstrated each zone of leadership. The average "Effectiveness" scores on the AGLS's six zones by global region appear in Table III. These follow-up t-tests found that Asian leaders felt that other leaders in their organizations were more effective at all six zones of leadership than did leaders from Europe (all ps < 0.001) and from the USA (all ps < 0.018). European leaders felt that other leaders in their organizations were less effective in Reflection, Diversity, and Business than did leaders from Latin America (all ps < 0.036). And Latin-American leaders felt that other leaders in their organizations were more effective in Diversity than did leaders from the USA ($p = 0.042$).

In order to investigate whether these statistical effects were due to genuine differences in leadership effectiveness or to a number of other factors, such as demographic characteristics, a MANOVA was run in the same manner as the previous omnibus MANOVA with the addition of several covariates: geographic scope of the organization, number of employees globally, 2008 revenue, employee's current level within the organization, time at current level, and number of direct reports. The MANOVA was still statistically significant, $F(18, 2658) = 4.34, p < 0.001, \eta^2 = 0.029$, Pillai's Trace $= 0.086$, suggesting that global region remained a significant predictor of the six AGLS "Effectiveness" subscale scores, even when controlling for these demographics.

Importance-Effectiveness Discrepancies in the Six Zones. In the third MANOVA, the predictor variable was global region (four levels $=$ Asia, Europe, Latin America, and the United States) and the criterion variables were the six AGLS "Importance-Effectiveness Discrepancy" subscale scores. The *Box-M* test for homogeneity of the variance-covariance matrices across design cells was significant, $Box\text{-}M = 224.21, \quad F(63, 583973.82) = 3.51, p < 0.001$, indicating a multivariate violation of the homogeneity of variance assumption. Additionally, all six Levene's tests were significant (all ps < 0.001), failing to provide univariate support for the homogeneity of variance assumption. Taken together, these findings again suggest that a more conservative estimate of F-statistics should be used.

The overall omnibus MANOVA revealed a statistically significant effect for global region, $F(18, 2676) = 3.78, p < 0.001, \eta^2 = 0.025$, Pillai's Trace $= 0.074$. As a result, follow-up Bonferroni-corrected t-tests were performed within each AGLS subscale to identify regional differences in the discrepancy between the importance leaders attributed to a zone of leadership and the degree to which other leaders in their organizations effectively demonstrated that zone. The average "Importance-Effectiveness Discrepancy" scores on the AGLS's six zones by global region appear in Table III. These follow-up t-tests found that United-States leaders had higher importance-effectiveness discrepancy scores than did Asian leaders in all zones of leadership except for Diversity (all ps < 0.001), higher discrepancy scores than did European leaders in all

zones (all ps $<$ 0.006), and a higher discrepancy score than Latin-American leaders did for Reflection ($p < 0.001$).

Connections among the Six Zones and Leader Demographics
Exploratory Pearson product-moment correlations were run among the six "Importance" AGLS subscale scores and all demographic variables measured in this study: organizational geographic scope of operations, number of employees globally, approximate 2008 worldwide revenue, participant current leadership role within the organization, length of time at current level, and number of employees supervised. A matrix of these Pearson product-moment correlations appears in Table IV. Significant positive correlations emerged between all six zones of leadership and leaders' number of direct reports, suggesting that leaders with more direct reports more highly valued all six zones of leadership. Also, leaders with a higher-level role in their organizations and leaders from organizations with a wider geographic scope, with a higher number of employees globally, and with a higher 2008 revenue placed more importance on Diversity.

As shown in Table IV, all six leadership zones had statistically significant and large correlations with each other, ranging from $r = 0.68$ (Diversity and Reflection) to $r = 0.87$ (Ingenuity and People). With correlations between zones this large in the confirmatory factor analysis, it is important to determine statistically whether the zones are actually separate constructs. Therefore, in order to assess the discriminant validity of the six zones, a 95 percent confidence interval was calculated for each correlation coefficient. The 95 percent confidence interval for the smallest inter-zone correlation ($r = 0.68$) was 0.64 to 0.72, and the interval for the largest inter-zone correlation ($r = 0.87$) was 0.85 to 0.89. Because none of the confidence internals included 1.0, the zones may be interpreted as statistically independent (Anderson and Gerbing, 1988). Additionally, in order to examine the magnitude of the relationships between importance and effectiveness ratings on each of the six zones, six correlations between the two types of ratings were calculated, yielding the following coefficients: Reflection ($r = 0.47, p < 0.001$), Society ($r = 0.54, p < 0.001$), People ($r = 0.49, p < 0.001$), Ingenuity ($r = 0.52, p < 0.001$), Diversity ($r = 0.63, p < 0.001$), and Business ($r = 0.58, p < 0.001$).

Discussion
Six zones of leadership
A literature review of recent scholarly journal articles on leadership suggested that organizational leadership today is composed of six zones: Reflection, Society, Diversity, Ingenuity, People, and Business. These six zones became topics for focus groups of organizational leaders, in which discussions tentatively supported the six-zone structure and provided qualitative data that were used to create a 42-item measure, the AchieveGlobal Leadership Scale (AGLS). The AGLS was then employed to examine the degree to which 899 leaders in four global regions felt that 42 leadership practices, seven in each zone, were:

- important to meeting their organizational challenges over the next one to three years; and
- were applied effectively by other leaders in their organizations.

	Geographic scope	No. of employees globally	2008 revenue	Current role	Time at current level	No. of direct reports	Reflection	Society	People	Ingenuity	Diversity
Geographic Scope											
No. of employees globally	0.44***										
2008 revenue	0.46***	0.66***									
Current role	0.07*	−0.06	−0.03								
Time at current level	−0.05	0.05	0.04	0.22***							
No. of direct reports	0.21***	0.19***	0.21***	0.50***	0.19***						
Reflection	−0.05	0.05	0.05	0.05	0.04	0.10**					
Society	−0.06	0.05	0.04	0.06	0.02	0.09*	0.86***				
People	−0.02	0.04	0.07*	0.06	0.02	0.09*	0.83***	0.86***			
Ingenuity	−0.01	0.06	0.06	0.07*	0.03	0.12***	0.82***	0.86***	0.87***		
Diversity	0.16***	0.14***	0.15***	0.10**	−0.03	0.17***	0.68***	0.71***	0.76***	0.79***	
Business	−0.06	0.03	0.04	0.08*	0.04	0.12**	0.82***	0.83***	0.84***	0.87***	0.75***

Notes: $^{*} = p < 0.05$. $^{**} = p < 0.01$. $^{***} = p < 0.00$

Table IV.
Correlation coefficients among demographics and zones of leadership

The data from the 42 items were analyzed using a confirmatory factor analysis (CFA), which suggested that the six zones all triangulated on and comprised the larger construct, "Leadership in the twenty-first century." All individual items loaded significantly and highly on their respective factors (six zones), and all factors loaded significantly and highly on the larger second-order construct, "Leadership in the twenty-first century." Fit indices in this model were generally in the adequate or good range, suggesting that real-world leaders agreed with the six-zone model of organizational leadership.

During the worldwide economic crisis beginning in 2008, including the collapse and near-collapse of major financial and manufacturing companies, organizational leaders came under harsh scrutiny. Global media, ordinary citizens, and leaders themselves asked two basic questions:

(1) How did leaders cause or exacerbate the financial crisis and its consequences?

(2) What can leaders do to reverse the economic decline and avoid similar crises in the future?

The six-zone leadership model offers possible answers to both questions. In the period leading up to the financial crisis, many organizational leaders chose to focus excessively on Business, in the simplest terms maximizing short-term revenue and profitability while ignoring critical long-term needs in other leadership zones. In the wake of the crisis, for example, there was widespread recognition that while some complex financial instruments generated enormous income for their creators and sellers (i.e. short-term Business success), these over-valued instruments wreaked worldwide economic damage (i.e. long-term failure to serve Society). An implication of the six-zone model is that to repair the economic damage and avoid similar damage in the future, organizational leaders could benefit from increasing their awareness and positive action in all six leadership zones.

The support from the current study for the six-zone model of leadership also sheds light on the perennial question, "What is the difference between a leader and a manager?". To repurpose a well-worn analogy, it could be the difference between a raisin and a grape. If a raisin is a grape missing a vital component, water, a manager is a leader missing five vital components. According to the six-zone model, a "manager" would be competent primarily in one zone: Business. Managers make and execute plans and decisions, organize the work of others, and guide effort toward quantitative business goals. Leaders must do these things as well, of course, but they also demonstrate interests and abilities in the other five zones: Reflection, Society, Diversity, Ingenuity, and People. So an effective twenty-first century leader moves smoothly among the zones, leveraging strengths from each zone to address deficiencies and ultimately succeed in all zones, including Business. Integrating these six zones is obviously a daunting task because it may be impossible to give equal attention to every zone all the time. Even so, increased awareness of the six zones and constituent practices can help leaders make conscious trade-offs in response to shifting conditions. The better a leader is able to recognize his or her strengths and weaknesses, the better that person will be able to adopt new strategies, adjust current strategies, and recognize strengths and weaknesses of others.

Global differences in leadership
A series of multivariate analyses of variance (MANOVAs) examined whether global regional differences exist in the importance that leaders attributed to the six leadership zones, in the degree to which leaders effectively demonstrated the six zones, and in the magnitude of discrepancy between the degree to which leaders attributed importance to a particular zone of leadership and the degree to which leaders felt that other leaders in their organizations effectively demonstrated that zone of leadership.

These analyses found that European leaders rated all six zones as less important than did Asian, Latin-American, and US leaders (except for Reflection, where there was no significant difference between the importance attributed by Latin-American and European leaders). This finding reinforces the long-term phenomenon that leadership trends and practices tend to emerge in North America (the traditional "New World," in the current study represented by the USA) and migrate over time first to Asia (the fastest-growing global economic region) and finally to Europe (the traditional "Old World"). Given the history of migration of other management trends (e.g. the "quality movement" of the 1980s and "collaborative leadership" of the 1990s), longitudinal studies may find increasing European valuation and application of elements of the six-zone leadership model identified in the current study.

Asian leaders rated Diversity as more important than US leaders did. This finding runs counter to existing cross-cultural research, which has shown that in comparison to individuals from Western cultures, individuals from Asian cultures typically score higher on measures of collectivism, placing greater emphasis on commonality than on uniqueness. The finding in this study may be the effect of a number of possible causes in the USA:

- a widespread management view that "people are fundamentally the same," and the consequent devaluation of uniqueness;

- the popular notion that defines diversity as mere "political correctness";

- the empirical challenges of managing and making constructive use of diverse points of view;

- a perception that diversity issues, while important, are relatively less important in a poor economy; and

- the persistence of racial, gender, and cultural biases in the USA, with historical barriers to diversity at higher organizational levels.

Additionally, in the current sample, exploratory analyses found that Asian leaders were from organizations with the largest geographic scope and largest 2008 revenue. Though the current sampling may be biased, organizations in Asian countries may also be more "global" in scope and as a result, may more highly value the Diversity zone because of its necessity in a global market.

US leaders rated Reflection and Society as more important than did Latin-American leaders. These findings may indicate a growing willingness of US leaders, as co-architects of the global economic crisis, to "accept responsibility for their own mistakes" (the highest-rated item worldwide in the AGLS). If so, this trend bodes well for the readiness of United-States leaders to gain zone proficiencies outside of Business that may help increase global competitiveness and prevent future economic crises.

Statistically significant regional differences emerged in the degree to which leaders effectively demonstrated each zone:

· Asian leaders rated other leaders in their organizations as more effective in all six zones than did European and US leaders.

· European leaders rated other leaders in their organizations as less effective in Reflection, Diversity, and Business than did Latin-American leaders.

· US leaders rated other leaders in their organizations as less effective in Diversity than did Latin-American leaders.

Though these statistical effects of global region were not due to the demographics measured in this study, as demonstrated by statistical significance even when covarying for demographics, the effects may be due in part to other unmeasured underlying influences, as opposed to authentic differences in leadership effectiveness. These potential "third variables" could include, for example, culture-based differences in frames of reference or response biases. Because we cannot rule out these alternative explanations, we must temper conclusions we draw from these findings. If these differences are indeed genuine differences in leadership effectiveness, this overall pattern, that US and European leaders rated other leaders in their organizations as less effective than did Asian and Latin-American, may reflect cultural biases in Asian and Latin-American cultures against open criticism of other leaders. If borne out by other research removing the effects of potential third variables, these biases could limit the amount and quality of constructive feedback received by Asian and Latin-American leaders, thereby reducing the degree of self-awareness required for leaders to improve their performance in all six zones.

Statistically significant regional differences emerged in the discrepancies between the importance leaders attributed to a zone and the degree to which other leaders in their organizations effectively demonstrated that zone. US leaders had:

· higher importance-effectiveness discrepancy scores than did Asian leaders in all zones except for Diversity;

· higher discrepancy scores than did European leaders in all zones; and

· a higher discrepancy score than did Latin-American leaders in Reflection.

While the study found that leaders worldwide do not see their peers as performing at the expected level in any zone, the comparatively greater discrepancies in the USA may be the result of:

· objectively less effective performance of United-States leaders as compared with leaders in other countries,

· heightened awareness in the USA of destructive leadership practices in United-States organizations,

· an intense reaction of US leaders due to low morale in the wake of the economic downturn, and/or

· a cultural predisposition of US leaders to voice criticism of other leaders.

In any case, the comparatively high discrepancy scores in the USA suggest deep levels of doubt among US leaders about their own ability to abandon leadership practices

that contributed to the economic decline. At the same time, the apparently greater degree of alarm among US leaders about their own effectiveness may motivate greater effort to improve their effectiveness in all leadership zones.

Six zones and leader demographics
Exploratory correlational analyses found that ratings of the importance of the leadership zones rose with organizational level. Since these higher-level leaders have a broader perspective on practices that promote organizational success, they would logically place greater value on the six zones of leadership. It appears that as leaders mature, they more clearly see the value of the zones and their constituent practices. For that reason, if a leader aspires to higher office, improved zone awareness and competence could be the very definition of "executive material."

In a related finding, leaders at higher levels and leaders from organizations with wider geographic scope, more employees globally, and greater 2008 revenue placed more importance on Diversity. This finding raises important questions for further research: Do large global organizations tend to produce senior leaders who value diversity? Do senior leaders who value diversity tend to promote organizational growth in terms of size, geographic scope, and revenue? Do lower-levels leaders who value diversity tend to rise to higher positions in large global organizations? Answers to these questions could highlight the practical and career-related benefits of diversity competence for all leaders, encouraging these leaders to learn about the business practices of other cultures and leverage the contributions of diverse employees.

Limitations and future directions
One limitation of this study is the confirmatory – as opposed to exploratory – approach to the structure of leadership. The literature review pointed to a six-zone structure, which was used to frame discussion prompts in the focus groups and item generation in the AchieveGlobal Leadership Scale. The *a priori* model of leadership therefore was heavily top-down, from academia to real-world leaders, as opposed to bottom-up, from real-world leaders to academia. The six-zone model may not have emerged in the same manner had a more inductive approach been employed, in which data and exploratory factor analysis had driven the construction of the leadership model. Accordingly, future studies could examine whether large sets of qualitative statements from leaders on the nature of leadership coalesce into similar or different zones.

A second limitation of this study stems from the fact that 36.8 percent of participants were from organizations with a domestic, as opposed to global, scope of business operations. Researchers and theorists have long suggested (e.g. Hamel and Prahalad, 1985) that leaders must forge a different business strategy when expanding from domestic to global operations. But whether the fundamental characteristics of leaders in organizations with a domestic vs. global scope actually differ has been more contentious. For example, Jokinen (2005) identified two basic approaches in the scholarly literature:

(1) Global leaders have different competencies from those required in a domestic context.

(2) Global leaders have the same fundamental competencies as domestic leaders but must develop the competencies into a "higher" global level.

Identifying the more accurate statement of the two is beyond the scope of the current study, but this dialogue in the literature presents a ripe and important question for future research. We would, however, encourage readers to interpret our conclusions with a degree of caution appropriate to the fact that the current sample is comprised of a substantial number of both domestic and global leaders.

A third limitation of this study has to do with the rudimentary support established thus far regarding the psychometric properties of the AGLS. Though the initial psychometric indicators allow for cautious optimism, more validation of the scale is needed before it is deemed a valid and reliable measure of leadership. In this study the items for each subscale in the AGLS were grouped together when administered to participants, and doing so may have inflated the correlations among items belonging to the same leadership zone. Additionally, because the data were collected from a single participant at one point in time, common method variance (CMV) may have influenced the results of the confirmatory factor analysis (Podsakoff *et al.*, 2003). For example, the higher-order leadership factor may have been subject to systematic error variance shared among the observed scores (e.g. due to participant mood or response biases when filling out the items). In order to control for CMV as well as test the AGLS for further psychometric properties, future studies could benefit by randomizing the presentation order of the items, assessing the AGLS's convergent and discriminant validity and test-retest reliability, and validating it on other samples of leaders.

Despite these limitations, a strength of the research design was its extensive participant feedback at each phase of investigation, resulting in a discursive definition of leadership. This definition suggested that leadership in the twenty-first century is a complex matrix of practices required for competent responses to rapidly evolving market and human realities. Further, the study suggested that effective leaders understand and apply specific practices grouped in the six-zone model with respect to geographic location, scope of operations, revenues, and organizational levels. By building on their strengths and working on their weaknesses in the six leadership zones, effective twenty-first century leaders at all levels prepare themselves to address their most pressing business challenges, thereby promoting individual and organizational success, as well as the long-term health of the global economy.

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