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## Measuring the CEO Leadership Style and the Organizational Culture

CEO 리더십과 조직문화 유형의 측정

강석진 · Kessels, Joseph W. M. · 이은수 · 조영삼



사단  
법인 한국전문경영인(CEO)학회

# Measuring the CEO Leadership Style and the Organizational Culture

**Suk Jean Kang\*** Chairman, CEO Consulting Group  
**Kessels, Joseph W. M. \*\*** Professor, University of Twente, Netherlands  
**Eun Soo Lee\*\*\*** Ph.D., Korea Social Enterprise Promotion Agency, Korea  
**Young Sam Cho\*\*\*\*** Ph.D. Candidate, Korea University Business School, Korea

## Abstract

Leadership style and organizational culture have changed and progressed significantly under the fast changing knowledge economy during the recent decades, and these are important challenges for managing businesses. Therefore, it is required to redefine characteristics of CEO leadership style and organizational culture in these days. The purpose of this study is to develop and validate scales for the measurement of leadership style and organizational culture. First, as a preliminary investigation, we conducted in-depth interviews with 39 executives and senior managers to develop the items for questionnaires. Second, we conducted formal in-depth group interviews with 72 interviewees and collected completed questionnaires from 387 study participants. To test the convergent validity of the questionnaire items, we conducted an exploratory factor analysis using this sample. The results for the scale measuring leadership style showed that all 28 items were categorized into four factors (LS1: People-oriented, LS2: Visionary and entrepreneurial, LS3: High challenge-seeking and risk-taking, and LS4: Low challenge-seeking and high-control). The results for the scale measuring organizational culture also indicated that all 21 items were categorized into four factors (OC1: People-oriented, OC2: High challenge-seeking and innovative, OC3: Low challenge-seeking and status-quo, OC4: Bureaucratic and top-down). The reliability of the four factors for each leadership style and organizational culture measurement instruments was acceptable. Results of a confirmatory factor analysis conducted to verify the discriminant validity of the instrument items indicated that the four-factor model for leadership style and organizational culture fitted the data significantly better than the two-factor model as well as one-factor model for both measures. Finally, as an additional test, the results of the correlation analysis for both leadership style and

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\* First Author, E-mail: kang-ceoconsult@hanmail.net

\*\* Co-Author, E-mail: J.W.M.kessels@utwente.nl

\*\*\* Corresponding Author, E-mail: su7165@ikosea.or.kr

\*\*\*\* Co-Author, E-mail: zegal82@korea.ac.kr

organizational culture proved the measurement validity of our study variables. These results of validation tests support the usefulness and practicality of these variables for future research.

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# I. Introduction

In the twenty-first-century knowledge economy, rapid advances in science and technology (especially in the areas of information and communication technologies) have significantly impacted business environments. Under these rapid changes of business environments in recent decades, leadership style and organizational culture have also changed substantially, adapting to circumstances within the knowledge economy.

Leadership style and organizational culture in business world today differ considerably from those in the past. Previous research has mostly examined the characteristics of leadership and organizational culture during the period from the 1980s to 2010 mainly in western contexts (Alimo-Metcalfe et al., 2008; Bass, 1985; Nahavandi and Malekzadeh, 1993; Schien, 1984). Therefore, theories from research conducted in earlier decades may not adequately reflect the substantially changed the leadership and organizational culture characteristics these days. This research is important to reduce the gap between academic theories on leadership and organizational culture and practice in the field.

In recent business environments, leaders are people-oriented, respecting organizational members as human beings and valuing their knowledge, ideas, and opinions as important assets of the company. Business leaders in these days emphasize highly challenging entrepreneurship and risk-taking in order to keep pace with fast-advancing future growth. Organizational cultures are boundary-less, open, and characterized by significant freedom for employees. Competitive companies are built on strong organizational cultures. In companies with a strong organizational culture, people have freedom to be creative and innovative, and organizations can utilize their knowledge and ideas in a productive way (Trice and Davis, 1993). Freedom within the organization and a boundary-less open culture is important to foster creativity and innovation (Jung et al., 2008).

Leadership and organizational culture are two sides of one coin (Schein, 1984). Both significantly impact knowledge productivity, which is important for value creation and sustainable growth, the main goals of current business enterprises. In order to reduce the gaps between leadership styles and organizational culture in business management of these days and academic research in this area, new measurement instruments need to be developed based on the opinions of current business leaders and practical real case studies. For this reason, executives and senior managers of four leading Korean companies, Samsung Electronics, LG Electronics, Shinhan Bank and WoongJin Group were involved in the interviews and surveys for this study.

The purpose of the study is to develop new scales for measurement of leadership style and organizational culture and to test the validity of these scales in various ways. In order to achieve these objectives, we conducted in-depth interviews as part of a preliminary investigation, after which formal in-depth group interviews were conducted and questionnaires were distributed to study participants. To verify the validity of the scales measuring leadership style and organizational culture, we conducted a series of statistical analyses: exploratory factor analysis (EFA) to verify convergent validity, confirmatory factor analysis (CFA) to test discriminant validity, and the results of the correlation analysis for leadership style and organizational culture to check instrument validity further. Drawing upon the findings in previous literature and our own research findings, we discuss the implications of the results of this study and suggest directions for future research.

## II. Literature Review

### 2.1 Leadership

Leadership has been studied extensively over a long period of time, and perspectives on this topic are diverse. The study of leadership has passed through several distinct stages. In the 1930s and 1940s, many studies were based on trait theories, while in the 1950s and 1960s, behavioral theories were emphasized. The situational and contingency theories of the 1960s and 1970s gave way to the transformational and strategic leadership theories of the 1980s and 1990s, which focused on top management and the role of the CEO (Alimo-Metcalfe et al., 2008). These theories seek to explain different aspects of leadership, such as contingency adaptability for managing uncertainty and changes and the strategic role of leaders (House and Aditya, 1997). Among the diverse leadership theories introduced and studied over the decades, those most frequently applied include the situational, transactional, transformational, servant, and strategic leadership theories and the contingency model. These are discussed in detail below.

Hersey and Blanchard (1977, 1982) introduced situational leadership theory, which postulated four leadership styles combining two factors: relationship behavior and task behavior. These two factors relate to the different maturity and development levels of followers. Possible leadership styles combining these two factors include telling (S1: high task focus, low relationship focus), selling (S2: high task focus, high relationship focus), participating (S3: low task focus, high

relationship focus), and delegating (S4: low task focus, low relationship focus). Each leadership style is appropriate for certain types of situations. The choice is determined by the followers' maturity level, which is defined as the degree to which followers are ready and willing to tackle the task the group is facing (House and Aditya, 1997). Leaders must consider employee maturity criteria when selecting employees for particular tasks. Situational leadership theory suggests that an effective leader needs to be flexible (McMurray and Bentley, 1987) and willing to give different levels of job-related autonomy to followers contingent on their level of maturity. Although situational leadership theory has strengths that support decision-making and other aspects of daily life in the business world, research demonstrating the robustness of the theory is lacking. In addition, follower maturity is poorly defined, and the rationale is inadequate as to why and how particular tasks and relationship behaviors correspond to the various follower maturity levels (Marques and Simon, 2006).

Transactional leadership theory explains leadership style in terms of two main factors: contingent reward and management-by-exception (Bass, 1985). However, describing diverse complexity of leadership styles and the characteristics of organizational culture today using a combination of just two leadership factors, as was attempted in most previous research, has become increasingly difficult.

In his book entitled *Leadership*, Burns (1978) introduced the concept of transforming leadership, which he described as a process in which leaders and followers help each other to increase morale and motivation but transactional leaders provide contingent rewards and management by exception (Lee and Kim, 2012). Bass (1985) extended the work of Burns (1978) and introduced the term "transformational" in place of "transforming," explaining how transformational leadership could be measured and how it impacts follower motivation and performance. The followers of a transformational leader feel trust, admiration, loyalty, and respect for the leader. In contrast to Burns (1978), Bass (1985) suggested that leaders can simultaneously utilize both transformational and transactional leadership styles. The four elements of transformational leadership are idealized influence or charisma, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1985; Northouse, 2010; Oh and Lee, 2011). These four dimensions of transformational leadership adequately reflect the people-oriented and intellectually stimulating environment in which a knowledge-productive organizational culture can be created (Chang and Lee, 2007; Sarros et al., 2008). However, transformational leadership theory does not address the relationships among intellectual stimulation, knowledge productivity,

organizational culture, and value creation in the business context, which is the primary objective of business managers today.

Fiedler (1967) introduced the contingency model. This theory assumes that leaders are consistent in their behavior, and that they are either task-oriented or relationship-oriented. In accordance with this notion, Curtin (1995) lists four basic leadership styles based on leaders' characteristics: autocratic, laissez-faire, democratic, and servant leadership. These leadership styles are classified by the degree of job-related autonomy and the level of participation in the decision-making process that a leader grants to followers. An autocratic leader simply issues detailed orders and expects them to be carried out automatically. Laissez-faire is the opposite: leaders let subordinates do virtually as they please. A democratic leader allows people to participate in decision-making (Curtin, 1995). A servant leader regards him or herself as the steward of resources provided by the organization. Leaders of this type serve others while achieving results in line with the organization's values and integrity.

Vroom and Jago (1988) identified five decision-making processes: Autocratic I (leader makes decisions alone based on his or her own experiences and information), Autocratic II (leader makes decisions alone with consideration of information from followers), Consultative I (leader makes decisions with consideration of individual opinions of followers), Consultative II (leader makes decisions with consideration of group opinions of followers), and Group (leader delegates decision-making to followers). The leader's choice of process depends on the level of followers' participation in the decision-making processes. This decision-making model helps leaders to make decisions according to the properties of the problems they face. The model also reflects varying degrees of participation by subordinates (Kao and Kao, 2007).

Other researchers argue that leaders need charisma. Charisma is a feeling of personal attraction to others; the stronger the attraction, the stronger the power of charisma (Bass, 1990; Fiol et al., 1999; Tosi and Greckamer, 2004). Leaders have charisma when people and followers respect and trust them (Tosi et al., 2004), want to follow them, and believe in their capabilities. Charisma is not based on power or control. Charismatic leaders propose and take actions to bring about good things for the company and its people in future (Tsui et al., 2006).

Servant leadership theory describes highly humanitarian and people-oriented leadership in which followers are respected as human beings. Servant leaders are known for their team-building work and community spirit. Their values reflect the values of a democratic open society in which respecting human rights is important. The following ten characteristics of servant leadership are

described in Greenleaf's paper (Spears, 2002): listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment, and building community. However, these characteristics are mostly focused on humanitarian and relationship-oriented subject matter, not on the priorities, objectives, and goals of business managers, who focus on knowledge productivity, value creation, and sustainable capability for the future growth of the company.

Nahavandi and Malekzadeh (1993) grouped strategic leadership styles in combinations of two main factors as follows: challenge-seeking (high and low) and desire for control (high and low). These styles can be divided into four different categories: challenge-seeking, highly controlling innovator (Type I); challenge-seeking, participative innovator (Type II); challenge-averse, highly controlling status quo (Type III), and challenge-averse, delegating (Type IV). These categories correspond to outward and inward changes in the company. They also reflect the degree of follower participation in decision-making processes.

Finally, other researchers have tried to identify leadership characteristics and describe leadership styles according to the degree of participation of followers in decision-making processes, job-related delegation, and autonomy granted to followers (Denison, 2000). Leaders have also been described as innovative, visionary, and challenge-seeking (Trice and Davis, 1993).

Academic research on leadership has progressed continuously following changes in industry, society, and management leadership styles. Leadership styles in the field of business management have changed and progressed substantially in recent decades, becoming more diversified and complicated. Leadership has become more humanitarian and people-oriented than in the past; leaders now respect organization members and their opinions and ideas more than ever before. These changes have been driven by evolutionary changes in our knowledge-based society and advances in high-technology industries. In this study, leadership styles are redefined to reflect the more diverse settings and characteristics of business world today.

## 2.2 Organizational Culture

Organizational culture as a subject of formal study has captured the interest of a variety of researchers (e.g. Barney, 1986; Deal and Kennedy, 1982; Pettigrew, 1979; Schein, 1985; Schein, 1992). Pettigrew (1979) described organizational culture as the total sum of all symbols, language, ideologies, beliefs, rituals, and myths within an organization. These concepts are interdependent to varying degrees. There is some convergence in the way that they relate to functional problems of integration, control, and commitment. O'Reilly (1989) also stated that organizational culture

is typically defined as a complex set of values, beliefs, assumptions, and symbols that define the way in which a firm conducts its business.

Organizational culture is defined and measured using a variety of parameters, including organizational strength (Kotter and Heskett, 1992), organizational traits (Denison and Mishra, 1995), congruence (Quinn and McGrath, 1985), cultural congruence, strength, and type (Cameron and Freeman, 1991), and shared values (O'Reilly et al., 1991). These have been related to performance at the firm level and commitment at the individual level (Alimo-Metcalfe et al., 2008; Tsui et al., 2006).

However, as a result of the fast pace of society and the evolution organizational culture in recent decades, characteristics of these concepts are more diversified and complicated today than they were in the past. Organizational culture can now be described as a combination of various characteristics. Therefore, analysis of organizational culture, which is a combination of various elements, has become a more complicated task than existing academic theories can handle. This study attempts to reflect the diverse and complicated characteristics of organizational culture in business context today.

Ownership spirit is characteristic of employees working in a company with a strong organizational culture. In this study, the phrase "ownership spirit" is unrelated to the concept of share holders ownership. When leaders respect and empower their employees as human beings and value the opinions and ideas of the people within the organization (Tosi et al., 2004), those people can develop ownership spirit. When they have this spirit, people enjoy their work and put their passion, energy into it, and best effort into achieving the company's long-term vision and goals and short-term objectives.

The phrase "employee ownership spirit" in the Korean language "주인의식" (Juin-Eisik) is commonly used in the business community in Korea to describe the mind and spirit of employees who love the company and their work, who are willing to do their best for the company. Their sense of loyalty to the company is as strong as that of the owner of the company. Juin-Eisik describes the working attitude of empowered people in a highly people-oriented organizational culture (Jung et al., 2008; Shin and Zhou, 2003). When a leader respects the employees of the company as human beings and demonstrates trust in and respect for their opinions and ideas (Tosi et al., 2004), people in the organization do not think of themselves as mere employees who were hired by the company just to perform tasks. When they have an ownership spirit, employees think of themselves as valuable team members working together for the good of the

company. *Juin-Eisik* (ownership spirit) is closely linked with a sense of responsibility, a sense of mission, loving and enjoying work, and trusting leaders and the company. Employees who have the ownership spirit think of the company and their work the same way and with the same mind as the company owners do. Although they are not shareholders, they strive to do their best for the company.

Leaders in a company with a strong organizational culture effectively communicate a challenging vision and spirit of entrepreneurship (Shin and Zhou, 2003; Tsui et al., 2006) within the organization. They share their vision and values with all members of the organization in a boundary-less and open way. Such an organizational culture may motivate people to be innovative and creative, encourage them to feel a real sense of accomplishment, and bring out their best capabilities. Fostering an ownership spirit is important for achieving the vision and goals of the company, for creating value, and for encouraging sustainable future growth.

The purpose of this research is to understand and measure organizational culture in order to identify what makes a strong knowledge-productive organizational culture, one that leads the company to achieve high value creation and sustainable growth. A preliminary conceptual framework is measured in this study.

### III. Methodology

#### 3.1 Sample and Procedure

The participants in this study were Korean executives and senior managers. As a preliminary investigation, we conducted in-depth interviews in January and February 2009 with 39 executives and senior managers from various ranks in order to examine the leadership styles of their CEOs and the organizational culture of their companies.

About their leaders, we asked them, "What do you think is the leadership style of the chairman or CEO of your company?" Their answers are best represented by the following list of responses:

On leadership style, "Our CEO values individuals' competence at work." "He is very friendly with employees." "He delivers vision and future directions for the company, and encourages employees' participation in decision-making." "He has a progressive leadership style, and is quick at decision-making. He foresees the future market trends and sets a vision and strategies for it." "He is a bottom-up leader." "He asks whoever is in charge to take responsibilities for his/her job."

Drawing upon the responses from the interviews, we found that the chairmen or CEOs of the companies in the preliminary investigation were people-oriented, visionary, entrepreneurial, high challenge-seeking, risk-taking, and willing to delegate, not controlling. About the organizational culture of their companies, we asked them, "How would you describe the culture of your company?" Their answers may be best represented by the following list of responses:

On organizational culture, "In our company, individual self-development and capabilities are highly valued and emphasized." "We also value humanity." "Our organization focuses on innovation and value creation." "We are open to creative challenges and innovation." "We are not afraid of risk. We challenge many things." "Our organization is sensitive to market changes and accommodates change rapidly." "In our company, communication is valued and we feel like a big family." "We do not have barriers to cross-team communication. Communication is active among all staff at all levels, regardless of their positions."

Drawing upon the responses from the interviews, we found that the organizational cultures of the companies in the preliminary investigation were people-oriented, high challenge-seeking and innovative, non-status quo, non-bureaucratic, and boundary-less.

To investigate further the characteristics of leadership style and organization culture, we conducted formal in-depth interviews with 72 interviewees and distributed survey questionnaires to 460 potential study participants from May to July 2010. We asked the same question used during the preliminary investigation to these new interviewees: "What do you think is the leadership style of the chairman or CEO of your company?" Their answers are briefly represented in the following list of responses:

On people-oriented leadership style, "Our CEO emphasizes respecting people of the company as human beings." "His people-oriented humanitarian leadership characteristics empowered and motivated employees to have a strong ownership spirit." "Our leader has in-depth understanding of each employee's talent and character, and utilizes human resources and people talent in the right way." "He strongly emphasizes global talent development and recruitment while driving the globalization of company business." "Our CEO often said, 'I invested 80% of my time in finding top talent and in people development'."

On visionary and entrepreneurial leadership style, "Our leader mainly focuses on establishing long-term vision and entrepreneurial objectives for the company." "His vision and goals are very practical and achievable, as he has significant intuition and insight." "Many important new business ideas and projects were initiated by the chairman's intuition and entrepreneurship." "Our

CEO always sees the big picture, the long-term, higher goals and vision for the company, which he has shared with every member of the company effectively, and employees are accepting and sharing the vision as their own dreams.”

On high challenge-seeking and risk taking leadership style, “Our CEO believes that if an organization is not seeking changes and innovation, that organization is dead.” “He enjoys developing and creating new businesses and new opportunities while taking acceptable risks.” “He made that decision after careful review and evaluation of potential risks so as to secure confidence in the risk management plan.” “Our leader expanded the business into various different industries by taking significant risks, as he himself had self-confidence in the growing business and our ability to manage risks. All those businesses in different industries became successful.”

On low challenging-seeking and high-control leadership style, “Our leader seeks stable and sustainable growth rather than taking high risks for rapid growth, but sometimes makes high challenge-seeking and high risk-taking decisions.” “Our chairman does not control the business directly, but he regularly holds open conversations with each president and shares his thoughts and opinions for the businesses with them.” “He fully delegates management responsibilities to presidents of affiliated companies and staff. However, he directly involves himself in major issues related to the decision-making for long-term direction and goals of the whole company.”

We found similar response patterns in the preliminary interviews and formal in-depth interviews. The chairmen or CEOs were people-oriented, visionary, entrepreneurial, high challenge-seeking, risk-taking, not controlling, and willing to delegate. To examine the organizational cultures of the companies of interviewees further, we asked the same question used during the preliminary interview: “How would you describe the culture of your company?” Their answers may be briefly described as in the following representative examples:

On people-oriented organizational culture, “Our organization considers people as the most important assets of the company, and respects people and provides opportunities to do their best.” “Our culture is family-oriented, and we call our company people ‘the family’. The paternalistic and family-oriented culture tightened our internal unity and solidarity.” “Our company considers relationships among our people and interpersonal skills and teamwork to be most important. We think our working relationships and teamwork are evidence of a family-oriented culture.” “Our company offers various human resources development and training programs.”

On high challenge-seeking and innovative organizational culture, “Our culture is both creative and dynamic, and we are not afraid of challenges in new areas.” “Our organization has an

offensive and aggressive orientation for developing new markets and entering into new businesses.” “Our company encourages creation of innovative new products and new idea development, and provides significant freedom for creative thinking and imagination.” “Once creative and innovative new ideas and new business plans are developed and accepted by the management, our organization implements the accepted plans effectively and rapidly.”

On bureaucratic and top-down organizational culture, “Our company tries to build a more open and non-bureaucratic organizational culture for empowering people and for building a highly effective knowledge-productive organizational atmosphere.” “Our organizational culture is closer to a horizontal culture with lower-level control as compared to a vertical culture with high-level top-down control.” “Our organizational culture has been changing to become more open and boundary-less, and less top-down.” “We have very open discussions and debates at our meetings before making decisions. And then we share everyone’s opinions and ideas and select the best ones.”

We found similar response patterns to those of the preliminary interviews in the formal in-depth group interviews. Organizational cultures in the featured companies were people-oriented, high challenge-seeking, innovative, non-status quo, non-bureaucratic, and boundary-less.

To test the validity of our measurement instruments for leadership style and organizational culture empirically, we distributed survey questionnaires to employees and managers. The cover letter of the survey questionnaire explained the purpose of the study and provided assurance of confidentiality. In total, 399 questionnaires were initially collected. However, 12 out of the 399 questionnaires were eliminated due to missing data; this resulted in 387 usable questionnaires. As shown in <Table 1>, 85.8% of the sample was male, 79.2% were between 31 and 50 years old, and 88.6% occupied ranks higher than middle manager. The percentage of employees who had worked at their companies for more than six years was 70.8%. The percentage of employees who had received undergraduate degrees was 74.1%.

Overall, most respondents were highly educated, experienced male managers in middle management positions or higher. This sample is appropriate for answering questions about the leadership characteristics of chairmen, CEOs, and senior executives. Responses from senior- or higher-level managers are especially well suited to answering these questions and considering matters related to measuring CEO leadership and organizational culture. Finally, the gender ratio of the sample showed that most respondents were male. This fact reflects the social structure of most Korean companies, which are still dominated by male employees at the management levels.

〈Table 1〉 Sample Characteristics (N = 387)

	Number	Percentage (%)
Gender		
Male	332	85,8
Female	55	14,2
Age		
Below 30 years old	54	14,0
31~40 years old	150	38,7
41~50 years old	157	40,5
Over 50 years old	26	6,8
Rank		
Employee	45	11,6
Assistant manager	38	9,8
Middle manager	123	31,8
Senior manager	94	24,3
Executive	87	22,5
Tenure		
Below 5 years	113	29,2
6~10 years	94	24,3
Over 11 years	180	46,5
Education level		
College or less	16	4,2
Undergraduate	287	74,1
Graduate or higher	84	21,7

### 3.2 Measure

We used a five-point Likert scale with responses ranging from “strongly disagree” (1) to “strongly agree” (5) to measure both leadership style and organizational culture. As mentioned earlier, questionnaire items were adapted from various original items in previous studies by extracting keywords (see <Appendix 1> and <Appendix 2>).

## IV. Results

### 4.1 Exploratory Factor Analysis

Using data from questionnaires distributed to 387 employees, we conducted exploratory factor analysis (EFA) for 28 items on leadership style and 21 items on organizational culture to determine the factor structure. <Table 2> shows factor loadings for each item for leadership style and organizational culture. The results of the EFA for leadership style indicated that the 28 items were categorized into four factors: LS1: People-oriented; LS2: Visionary and entrepreneurial;

LS3: High challenge-seeking and risk-taking; and LS4: Low challenge-seeking and high-control. Most factor loadings for the items were acceptable level, more than 0.500. The results of the EFA for organizational culture indicated that the 21 items were categorized into four factors: OC1: People-oriented; OC2: High challenge-seeking and innovative; OC3: Low challenge-seeking and status-quo; and OC4: Bureaucratic and top-down. Most factor loadings for these items were acceptable level, more than 0.500. These results support the convergent validity of the items for each factor.

<Table 2> Factor Analysis for Leadership Style and Organizational Culture

Item	LS1	LS2	LS3	LS4	Item	OC1	OC2	OC3	OC4
4	0.752				7	0.841			
3	0.742				8	0.837			
17	0.740				9	0.802			
16	0.735				6	0.790			
18	0.715				11	0.768			
10	0.710				10	0.763			
2	0.690				4	0.755			
12	0.670				3	0.706			
11	0.658				5	0.687			
20	0.634				12	0.647			
22	0.599				13	0.625			
1	0.597				1	0.569			
27	0.577				2	0.467			
9	0.568				21		0.680		
26	0.559				18		0.628		
28	0.540				19			0.881	
6	0.519				20			0.789	
14		0.806			16			0.589	
15		0.740			17				0.755
8		0.695			15				0.747
5		0.589			14				0.495
25		0.508							
21		0.489							
19			0.733						
7			0.702						
23				0.795					
24				0.763					
13				0.622					
Eigenvalue	8.228	4.963	1.919	1.884	Eigenvalue	7.287	2.350	2.268	1.853
Variance explained (%)	29.39	17.72	6.85	6.73	Variance explained (%)	34.70	11.19	10.80	8.83
Cummulative variance explained (%)	29.39	47.11	53.96	60.69	Cummulative variance explained (%)	34.70	45.89	56.69	65.52

Note) LS1 (People-oriented), LS2 (Visionary and entrepreneurial), LS3 (High challenge-seeking and risk-taking), LS4 (Low challenge-seeking and high-control), OC1 (People-oriented), OC2 (High challenge-seeking and innovative), OC3 (Low challenge-seeking and status-quo), OC4 (Bureaucratic and top-down).

Further, we checked Cronbach's alpha in order to verify the reliability of each factor. The Cronbach's alpha for LS1, LS2, LS3, and LS4 were 0.954, 0.841, 0.781, and 0.617, respectively. The Cronbach's alpha for OC1, OC2, OC3, and OC4 were 0.944, 0.747, 0.779, and 0.605, respectively. Overall, the Cronbach's alpha for each of the four factors for leadership style and organizational culture were acceptable level, more than 0.600. According to Nunnally (1978), reliability above 0.700 is appropriate, and reliability between 0.500 and 0.600 is acceptable for empirical studies.

## 4.2 Confirmatory Factor Analysis

<Table 3> provides the overall fit indexes for the various leadership style and organizational culture models. As one progresses from the most restricted model (one-factor) to the least restricted model (four-factor), all of the indexes showed incremental improvements in overall fit. All the four-factor models for both leadership style and organizational culture indicated low  $\chi^2$  values and  $\chi^2/df$  ratios. Also, the four-factor model for leadership style ( $\chi^2(df) = 954.626 (344)$ , NFI = 0.860, CFI = 0.905, TLI = 0.896, IFI = .905, RMR = 0.036, RMSEA = 0.068) and organizational culture ( $\chi^2(df) = 542.174 (184)$ , NFI = 0.888, CFI = 0.923, TLI = 0.911, IFI = .923, RMR = 0.052, RMSEA = 0.071) fitted the data significantly better than the one-factor model for leadership style ( $\chi^2(df) = 1298.140 (350)$ , NFI = 0.812, CFI = 0.855, TLI = 0.843, IFI = .855, RMR = 0.046, RMSEA = 0.084) and organizational culture ( $\chi^2(df) = 1071.564 (189)$ , NFI = 0.780, CFI = 0.810, TLI = 0.789, IFI = .811, RMR = 0.088, RMSEA = 0.110) and each alternative two-factor models. A good model fit requires that the values of CFI and TLI must exceed 0.900, and that the value of RMSEA should be lower than 0.080 (Lance and Vandenberg, 2002). Also, the values of NFI and IFI over 0.900 and the value of RMR below 0.050 indicate a good fit of research model.

Each one-factor model included all four components (leadership style: LS1, LS2, LS3, and LS4; organizational culture: OC1, OC2, OC3, and OC4). The two-factor model of leadership style was divided as follows: three components (LS1+LS2+LS3, i.e., people-oriented, visionary and entrepreneurial, high challenge-seeking and risk-taking) were grouped together, and LS4 (low challenge-seeking and high-control) was kept separate. The two-factor model of organizational culture was divided as follows: two components (OC1+OC2, i.e., people-oriented and high challenge-seeking and high-control) were combined, and the other two components (OC3+OC4, i.e., low challenge-seeking and status-quo and bureaucratic and top-down) were also combined.

Overall, the four-factor models for both leadership style and organizational culture showed the best fit compared to the other alternative models (the one- and two-factor models). These results verified the discriminant validity of each of the four dimensions of leadership style and organizational culture adopted in this study.

(Table 3) Overall Fit Indexes for Leadership Style and Organizational Culture

Model	$\chi^2$	df	$\chi^2/df$	NFI	CFI	TLI	IFI	RMR	RMSEA
Leadership style									
Null	6909,087	378	18,278	N/A	N/A	N/A	N/A	0,277	0,212
One-factor	1298,140	350	3,709	0,812	0,855	0,843	0,855	0,046	0,084
Two-factor	1195,921	349	3,427	0,827	0,870	0,860	0,871	0,040	0,079
Four-factor	954,626	344	2,804	0,860	0,905	0,896	0,905	0,036	0,068
Organizational culture									
Null	4859,780	210	23,142	N/A	N/A	N/A	N/A	0,275	0,240
One-factor	1071,564	189	5,670	0,780	0,810	0,789	0,811	0,088	0,110
Two-factor	1049,620	188	5,583	0,784	0,815	0,793	0,816	0,089	0,109
Four-factor	542,174	184	2,963	0,888	0,923	0,911	0,923	0,052	0,071

Note) Leadership style: One-factor model (LS1 + LS2 + LS3 + LS4), Two-factor model (LS1 + LS2 + LS3, LS4), Four-factor model (LS1, LS2, LS3, LS4).

Organizational culture: One-factor model (OC1 + OC2 + OC3 + OC4), Two-factor model (OC1 + OC2, OC3 + OC4), Four-factor model (OC1, OC2, OC3, OC4).

NFI (Normed Fit Index), CFI (Comparative Fit Index), TLI (Turker-Lewis Index), IFI (Incremental Fit Index), RMR (Root Mean Square Residual), RMSEA (Root Mean Square Error of Approximation).

### 4.3 Additional Test

To examine the relationships among our study variables further, we conducted a correlation analysis (see <Table 4>). The results of the analysis indicated that significantly positive relationships exist between leadership characteristics (people-oriented = LS1, visionary and entrepreneurial = LS2, and high challenging-seeking and risk-taking = LS3) and characteristics of organizational culture (people-oriented = OC1 and high challenge-seeking and innovative = OC2). Significantly negative relationships were found between the leadership characteristics (low challenge-seeking and high control = LS4) and the organizational culture characteristics (people-oriented = OC1 and high challenge-seeking and innovative = OC2). By contrast, significantly positive relationships were found between leadership characteristic (low challenge-seeking and high control = LS4) and organizational culture characteristics (low challenge-seeking and status-quo = OC3 and bureaucratic and top-down = OC4). These statistically significant results indicate the measurement

validity of our study variables. Further, the results of the correlation analysis support the argument of Schein (2004) that leadership and organizational culture are two sides of the same coin.

(Table 4) Means, Standard Deviations, and Correlations for Study

Variable	Mean	s.d.	1	2	3	4	5	6	7
1. LS1	4,21	0,59							
2. LS2	4,18	0,60	0,784**						
3. LS3	4,04	0,81	0,634**	0,606**					
4. LS4	2,84	0,82	-0,306**	-0,172**	-0,124*				
5. OC1	3,95	0,63	0,800**	0,666**	0,521**	-0,223**			
6. OC2	4,04	0,67	0,697**	0,544**	0,473**	-0,219**	0,726**		
7. OC3	2,61	0,85	-0,355**	-0,231**	-0,249**	0,542**	-0,292**	-0,324**	
8. OC4	3,53	0,68	-0,104*	0,031	0,055	0,466**	-0,174**	-0,095	0,525**

Note) \*  $P < 0,05$ , \*\*  $P < 0,01$

## V. Discussion

In this study, scales for measuring leadership style and organizational culture were developed and validated. These measurement instruments may reduce the gap between academic theories in the fields of leadership and organizational culture and management practice. During recent decades, leadership style and organizational culture in the business world have changed and progressed substantially, differing considerably from those of the past. Previous research has mostly been based on leadership and organizational culture characteristics prevalent mainly in western contexts during the period from the 1970s to 2010. Therefore, theories from research in earlier decades may not adequately reflect the leadership (Park et al., 2012) and organizational culture characteristics of today. Thus, we reflected on the findings of previous academic research and their applicability to current leadership style and organizational culture. We developed new measurement scales from formal in-depth group interviews and a series of statistical analyses using survey questionnaire of study participants based on the opinions and comments of respected senior business leaders.

The findings of this study provide several contributions and implications. First, we used a two-way approach involving in-depth interviews with the executives and senior managers to examine leadership style and organizational culture, as a preliminary investigation, and then

combining the findings with responses from formal in-depth group interviews and survey questionnaires distributed to study participants. By using both qualitative and quantitative methods, we developed new measurement scales based on the findings of prior academic studies on leadership and organizational culture. The responses from interviewees accorded with the results of the statistical analyses of survey data. These findings support our argument that new scales of leadership style and organizational culture are needed to adapt to the fast-changing, real-time management practices in these days.

Second, we conducted a series of statistical analyses in order to verify the validity of the new measurement scales. The results of EFA showed that all items for leadership style and organizational culture were categorized into four factors, and that factor loadings for all items were acceptable. In addition, Cronbach's alpha for each of the four factors were also acceptable. These results support the convergent validity and reliability of the items on these new measurement scales. The results of the CFA showed that the four-factor models for leadership style and organizational culture fitted the data significantly better than the two- and one-factor models for both measures. Thus, the discriminant validity among the factors was verified.

Third, we ran a correlation analysis as an additional test. The results showed that positive relationships between leadership style (LS1, LS2, and LS3) and organizational culture (OC1 and OC2). In contrast, negative relationships were observed between leadership style (LS4) and organizational culture (OC1 and OC2). However, positive relationships were found between leadership style (LS4) and organizational culture (OC3 and OC4). These significant results indicate the measurement validity of our study variables. From a theoretical perspective, the results of the correlation analysis support the argument of Schein (2004) that leadership and organizational culture are two sides of the same coin. Also, these results may help leaders to develop more people-oriented, innovative, and productive organizational cultures in practical management situations.

In the results reported here, it is possible to identify several areas in which future research would be useful. First, as was noted earlier in the paper, the present work focused on measuring leadership and organizational culture. There are other ways in which leadership and organizational culture might be conceptualized and measured in future research. Second, from a theoretical perspective, it would be helpful to learn more about the major antecedents and outcomes of leadership style and organizational culture.

This study has several limitations, as follows. First, although the use of a Korean sample

was an advantage, as discussed above, it was also a potential disadvantage. In this study, Korean companies were used for the empirical research to enable scales to be developed for measurement of leadership and organizational culture. Therefore, the results may not necessarily be generalized to foreign companies as well as all Korean companies.

Second, the sample size was modest. In future empirical research with the objective of developing more generalized and globalized conclusions, a broad sample should be used including companies exhibiting high-, medium-, and low-level performance and also companies from many different regions and countries.

Third, the measurement and validity of knowledge productivity and value creation need to be studied in the future. It would be useful to determine what leadership style is most favorable for creating a knowledge-productive organizational culture and achieving sustainable high value creation. The relationships among leadership, organizational culture, knowledge productivity, and value creation also require investigation in order to provide leaders with business guidelines in our twenty-first century knowledge economy.

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〈Appendix 1〉 Study Items, Keywords, and Original Sources for Leadership Style

No.	Question	Keyword	Source
1	Our CEO delegates authority and responsibilities to executives and managers.	Delegation	Denison (2000), Quinn and McGrath (1985)
2	Our CEO encourages open communication without boundaries.	Boundary-less	Jung et al. (2008), Denison (2000), Quinn and McGrath (1985)
3	Our CEO invests enough time and effort into empowering employees and the organization.	Empowerment	Oldham and Cummings (1996)
4	Our CEO listens and respects employees' ideas and opinions.	People-oriented	Oldham and Cummings (1996)
5	Our CEO has intuition and inspiration from significant business operation experience.	Intuition/ inspiration	Shin (1996)
6	Our CEO is sometimes directly involved and contributes to new knowledge/idea development.	Intuition/ inspiration	Shin (1996)
7	Our CEO is willing to take risks if necessary to implement new ideas and projects and to achieve high-level goals and objectives.	Entrepreneurship and risk-taking	Mischel (1973)
8	Our CEO sometimes shows charismatic leadership.	Charismatic	Tosi et al. (2004)
9	We respect and trust our CEO.	Trust and respect	Tosi et al. (2004)
10	Our CEO tries to motivate employees to do their best with ownership spirit.	Motivation	Alimo-Metcalfe et al. (2008)
11	Our CEO always shares the company vision and goals with employees.	Sharing vision	Shin and Zhou (2003)
12	Our CEO is doing his/her best to build a creative and innovative open organization.	Innovation/ openness	Trice and Davis (1993)
13	Our CEO often makes top-down decisions without being influenced by subordinates' opinions.	Top-down control	Kao and Kao (2007)
14	Our CEO can predict potential risks in the changing business environment.	Risk management	Mischel (1973)
15	Our CEO has the ability to develop and implement counter-measurement strategies to overcome risks.	Challenge seeking risk management	Mischel (1973)
16	Our CEO invests sufficient time in communication with management and employees.	Openness	Jung et al. (2008), Denison (2000), Quinn and McGrath (1985)
17	Our CEO always maintains integrity and transparent management.	Integrity	New
18	Our CEO is open to accepting change and innovation.	Innovation	Nahavandi and Malekzadeh (1993)
19	Our CEO seeks challenges and takes risks to enter into new business ventures.	Challenge-seeking and risk taking	Nahavandi and Malekzadeh (1993)
20	Our CEO prefers to maintain decentralized organization with delegation of major activities.	Low control and delegation	Nahavandi and Malekzadeh (1993)
21	Our CEO controls most of the important decisions and wants to be involved in major activities.	Participates in important projects and decisions	Nahavandi and Malekzadeh (1993)
22	Our CEO tolerates and accepts dissent and diversity of employees' decision-making and behaviors.	Low control	Nahavandi and Malekzadeh (1993)
23	Our CEO seeks strategies that deviate very little from pre-existing ones and attempts to maintain the status quo.	Low challenge-seeking and status quo	Nahavandi and Malekzadeh (1993)
24	Our CEO prefers to maintain a controlled and centralized organization.	High control	Nahavandi and Malekzadeh (1993)
25	Our CEO considers entrepreneurship very important for managing the company and people.	Entrepreneurship	Nahavandi and Malekzadeh (1993)
26	Our CEO prefers to take a future-oriented approach for the company.	Challenge-seeking	Nahavandi and Malekzadeh (1993)
27	Our CEO encourages employee development of creative ideas.	Empowerment	Shin and Zhou (2003)
28	Our CEO considers human resources development most important and invests significant amounts of time in it.	People-oriented	New

〈Appendix 2〉 Study Items, Keywords, and Original Sources for Organizational Culture

No.	Question	Keyword	Source
1	Our company has a non-bureaucratic and boundary-less open culture with freedom.	Boundary-less	New
2	Our company organization is decentralized with authority and responsibilities delegated to each operating business unit.	Decentralization	Denison (2000), Quinn and McGrath (1985)
3	In our company, we have boundary-less open and free communication across layers.	Boundary-less	Jung et al. (2008)
4	In our company, management and employees share information, knowledge, and best practices effectively.	Openness	Hutchings and Michailora (2004)
5	In our company, management and employees always share the company vision, goals, and strategies.	Visionary	Shin and Zhou (2003)
6	In our company, people are doing their best with ownership spirit.	Employees' ownership spirit	New
7	In our company, management supports employees to achieve the company's objectives and goals.	Empowerment	Jung et al. (2008)
8	In our company, employees' opinions are respected.	Participation	Harrison and Pelletier (1997)
9	In our company, employees are motivated to participate in decision-making.	Participation	Harrison and Pelletier (1997)
10	Our company has an open culture where people have freedom to be creative and innovative.	Innovation	Jung et al. (2008), Shin and Zhou (2002)
11	In our company, employees are respected as human beings.	Humanitarian	Harrison and Pelletier (1997)
12	In our company, employees are actively involved in learning new knowledge, information, and ideas both internal and external to the company.	Learning	Kessels (2004)
13	In our company, people are proactive in implementing new ideas and action plans.	Challenge-seeking	Nahavandi and Malekzadeh (1993)
14	In our company, most of the important decisions are made from the top down.	Centralization	Nahavandi and Malekzadeh (1993)
15	Our company emphasizes following procedures and rules.	Boundary-less	Nahavandi and Malekzadeh (1993)
16	Our company maintains a stagnant culture.	Bureaucratic	Nahavandi and Malekzadeh (1993)
17	Our company emphasizes order, rank, and position.	Centralization	Nahavandi and Malekzadeh (1993)
18	Our company is proactive in implementing new ideas and action plans.	High challenge-seeking	Nahavandi and Malekzadeh (1993)
19	Our company maintains the status quo.	Low challenge-seeking	Nahavandi and Malekzadeh (1993)
20	Our company prefers to maintain stability rather than taking risks and challenges.	Low challenge-seeking	Nahavandi and Malekzadeh (1993)
21	In our company, people are encouraged to recommend new ideas freely.	Innovative/creative	Chadwick et al. (2008)

# CEO 리더십과 조직문화 유형의 측정

강석진\* CEO 컨설팅그룹 회장  
 Kessels, Joseph W. M.\*\* University of Twente 교수  
 이은수\*\*\* 한국사회적기업진흥원 경영학 박사  
 조영삼\*\*\*\* 고려대학교 국제경영학과 박사과정

## 요약

지난 몇 십 년 동안 급변해 온 지식기반 경제하에서 경영에서의 리더십과 조직문화는 많은 변화와 진보가 이루어져왔다. 따라서 오늘날의 현실경영을 반영한 리더십과 조직문화의 특성들을 재정의 할 필요성이 재고된다. 본 연구는 CEO 리더십과 조직문화 유형에 대한 척도를 개발하고 그 타당성을 실증적으로 검증하고자 한다. 척도개발을 위하여 예비조사로서 39명의 기업임원 및 고위간부들을 대상으로 사전 그룹 심층인터뷰를 실시하였다. 이후, 72명의 기업임원 및 고위간부들을 대상으로 공식적인 심층인터뷰를 실시하고 387명의 임직원들을 대상으로 설문조사를 실시하였다.

리더십과 조직문화 유형 척도의 타당성을 검증하기 위하여 몇 가지 통계분석을 실시하였다. 첫째, 탐색적 요인분석 결과 28개 리더십 문항들은 4개의 요인으로 구분되었으며, 21개의 조직문화 문항들도 4개의 요인으로 구분되었다. 리더십의 4가지 유형들은 사람중심 리더십(LS1), 높은 비전을 추구하는 기업가정신을 가진 리더십(LS2), 높은 도전정신과 위험을 감수하는 리더십(LS3), 도전정신이 낮고 통제·관리 위주의 리더십(LS4)으로 나타났다. 조직문화의 4가지 유형들은 사람중심 조직문화(OC1), 높은 도전성을 가진 혁신적 조직문화(OC2), 도전성이 낮은 현상유지형 조직문화(OC3), 관료적인 상명하달식의 조직문화(OC4)로 나타났다. 모든 문항들의 요인적재값과 각 요인들의 신뢰도는 적합한 수준을 나타내며 척도의 수렴타당성을 증명하였다. 둘째, 확인적 요인분석 결과 리더십 4개 요인과 조직문화 4개 요인 구조가 각각의 다른 대안적 요인 모형들 보다 더 높은 수준의 모형적합도를 나타내며 척도의 판별타당성을 증명하였다. 셋째, 리더십과 조직문화 척도에 대한 추가적인 상관관계 분석 결과는 변수들 간 통계적으로 유의한 관계를 나타내며 측정타당성을 증명하였다. 본 연구에서 제시하는 척도에 대한 이러한 타당성 검증 결과들은 향후 연구에 척도의 유용성과 실용성을 제공할 것으로 기대된다.

주제어 CEO 리더십, 조직문화, 수렴타당성, 판별타당성, 측정타당성

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\* 제1저자, E-mail : kang-ceoconsult@hanmail.net  
 \*\* 공동저자, E-mail : J.W.M.kessels@utwente.nl  
 \*\*\* 교신저자, E-mail : su7165@ikosea.or.kr  
 \*\*\*\* 공동저자, E-mail : zegal82@korea.ac.kr