

Validation of the Organizational Culture Assessment Instrument Using Structural Equation Modeling

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Abstract

This paper examines the validation of the organizational culture assessment instrument using structural equation modeling. The current paper fills this significant gap in the previous study by presenting the results of a survey of 348 South Korean middle managers who completed the CVM instrument. The empirical results of organizational culture and leadership style was follows. First, among the Korean public administrative organizational cultures, hierarchical culture had a positive effect on group culture. Among public organizational cultures, hierarchical culture seems to be closely related to group culture. This means that women belonging to Korean public administrative organizations that have hierarchical culture among public organizational cultures have characteristics of female leadership such as coordinator leadership and supervisory leadership. Second, among Korean public administrative organizational cultures, group culture had a negative effect on rational culture. Among public organizational cultures, group culture is negatively related to rational culture. This implies that women's leadership of middle manager belonging to Korean public administrative organizations with group culture negatively influenced the organization's atmosphere into a rational culture. Third, hierarchical culture had a positive effect on rational culture. Hierarchical culture of public organizational culture is closely related to rational culture. Therefore, further research is needed to reinforce the results of the correlation between co-organizational culture and women leadership by using CVF. Also, this study suggests the limitations of the study on the measurement variables of the research model, securing the homogeneity of the sample to be examined, and the use of parameters and control variables.

Key words: competing values framework model, organizational assessment instrument, leadership styles, public sector, structural equation modeling

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I. INTRODUCTION

The Competing Values Framework (CVF) model proposed by Quinn (1988), Quinn and Rohrbaugh (1983) characterized organizations as complex, dynamic, and contradictory systems in which managers have to control organizational environment such as organizational culture and leadership style. He identified four organizational culture such as clan culture, hierarchy culture, market culture, and adhocracy culture. These organizational culture and leadership style vary along dimensions in terms of flexibility versus control and internal focus versus external focus. According to Competing Values Framework Leadership Styles (Quinn, 1988), this study focused on facilitator, coordinator, monitor and producer leadership were discussed (Avolio et al., 2009; Jackson and Parry, 2008; Kim, 2019, 2020; Taormina, 2008). Facilitator leadership used by independent variable means that the leader promotes collective efforts; builds cohesion and teamwork and manages interpersonal conflicts, mediating disputes through conflict resolution techniques; seeks to resolve problems with the team. Coordinator leadership used by mediation variable means that this leader maintains structure and the system flowing, protects business continuity, minimizing interruptions; performs bureaucratic tasks; reviews and reports; describes budget; develops and coordinates plans and proposals. Monitor leadership used by mediation variable shows this leader is concerned about knowing the organization's plans and if people are following the rules and the organization is achieving its goals; is detail-oriented and good at rational analysis and dealing with routine information; solves problems logically. Producer leadership used by dependent variable means that this leader is task-oriented and work-focused; presents a high level of interest, motivation and energy; encourages followers to accept responsibility, achieve goals and keep levels of productivity.

A variety of measures of organizational culture have been proposed and one widely used in South Korea is that based on Quinn's (1988) Competing Values Model (CVM). To date, however, there has been no published research examining its validity and reliability when used with South Korean public organizations. The paper begins by briefly reviewing the CVM literature, which suggests that, in the South Korea at least, the CVM is a valuable way of operationalizing organizational culture such as clan culture, adhocracy culture, hierarchy culture, and market culture (Avolio et al., 2009; Nam Nguyen and Mohamed, 2011; Quinn, 1988; Taormina, 2008). Clan oriented and cultures are family-like, with a focus on mentoring, nurturing, and doing things together. Adhocracy oriented cultures are dynamic and entrepreneurial, with a focus on risk-taking, innovation, and doing things first. Market oriented cultures are results oriented, with a focus on competition, achievement, and getting the job done. Also hierarchy oriented cultures are structured and controlled, with a focus on efficiency, stability and doing things right.

The main purpose of this study is to verify the validity of the organizational culture's measurement instrument using the structural equation modeling. The purpose of this study is to investigate whether clan culture acts as a mediating effect in the relationship between hierarchical culture and market culture. If clan culture plays a role in organizational culture, the purpose of this study is to verify whether it acts as a partial mediating effect or as a completed mediating effect.

II. THEORETICAL CONSIDERATIONS

1. The Relationship between Hierarchy Culture and Market Culture

Hierarchical culture has a close correlation with rational culture. Hierarchical and rational cultures focus on stability and control in terms of internal focus and integration, while rational cultures do not have the characteristics of organizational culture. There is a difference in that the focus is on stability and control in terms of external focus and differentiation (Al-Dmour et al., 2017; Sarathraj and Ramu, 2018). Al-Dmour et al. (2017) analyzed the effect of organizational culture type on e-commerce adaptation for public organizational culture. The results of the analysis show that hierarchical and rational cultures have significant negative effects on e-commerce adaptation, whereas group culture and development culture have significant positive effects on e-commerce adaptation. This implies that public organizational culture, unlike other organizational cultures, has a negative perception of adopting e-commerce adaptation. In contrast, public organizational cultures, in which organizational cultures have collective and developmental cultures, seem to be very active in adopting e-commerce adaptation.

According to Sarathraj and Ramu (2018), the hierarchical culture suggested by Hesami and Emamgholizade (2007), tends to be a uniform culture in order to establish hierarchical order, emphasizing the sacrifice of members for organizational hierarchy. This hierarchical culture can be effective in establishing the vision of the organization and fulfilling the duties of the members of the organization in the short term, but weakening the power to actively create the environment while adapting to the external environment by reducing organizational flexibility in the long run. Among the organizational culture types, rational culture is an organizational culture type that works effectively to enhance organizational performance like hierarchical culture because organizational leadership is more productive and directed than hierarchical culture.

Hierarchical culture has a close correlation with rational culture. Hierarchical culture is closely related to developmental culture. Hierarchical culture is closely related to group culture. Large

organizations and public institutions are generally said to be heavily influenced by hierarchy. Thus, in hierarchical cultures, the organization's long-term interests are repeatedly emphasized: organizational stability, predictability, and effectiveness (Hesami and Emamgholizade, 2007). Hesami and Emamgholizade (2007) found that hierarchical culture is closely related to rational culture among organizational culture types. Hierarchical cultures focus on stability and control in terms of internal focus and integration, while rational cultures focus on external focus and differentiation. Organizations with high hierarchical culture characteristics among organizational culture types show characteristics of organizational culture similar to rational culture. Rational culture is a type of organizational culture that focuses on the organization's external environment and emphasizes the importance of stability and control of the organization (Alas et al., 2011). On the other hand, too much emphasis on performance and rewards can have side effects such as performance and consequences, superficialism and employee alienation (Azanza et al., 2013).

There are similarities and differences in that they are focused on. This rational culture correlates with a hierarchical culture that coordinates and monitors leaders within an organization. Managers as coordinator leadership stress managers to achieve as much effort as they do, and managers keep track of individual follower schedules and try to meet managers' rules and regulations. Watcher leadership appears to be under bureaucratic protection, and managers in watcher leadership gather information, share information, and provide stability in the organization between followers.

2. The Relationship between Hierarchy Culture and Clan Culture

Hierarchical culture is closely related to group culture among organizational culture types. Hierarchical and group cultures have similar characteristics in terms of internal focus and integration, not in terms of external focus and differentiation. There is also a difference in that hierarchical cultures focus on the stability and control of organizational cultures, while group cultures focus on the flexibility and discretion of organizational cultures (Cameron and Quinn, 2011; Igo and Skitmor, 2006). Cameron and Quinn (2011) proposed four types of organizational culture according to the competitive value model (CVM): hierarchical culture, group culture, development culture, and rational culture. They categorized four types of organizational culture based on the Competitive Value Model (CVM) into dichotomous standards of stability and control, flexibility and prudence, internal concentration and integration, external concentration and differentiation. While hierarchical and group cultures show similarities in organizational culture in terms of internal concentration and integration, they differ from organizational culture in terms of stability and control, flexibility and prudence of organizational culture.

Acer (2012) proposes detailed criteria to classify four types of organizational cultures of hierarchical, group, developmental, and rational cultures according to the Competitive Value Model (CVM). A study by Cameron and Quinn (2011) emphasized that hierarchical and collective cultures should focus on internal retention, enhancing stability and control, flexibility and prudence. Acer (2012) emphasized the necessity of clear job setting and strict rule implementation while the overall atmosphere of organizational culture to build hierarchical culture was enhanced. To respond, he stressed the need to focus on people and increase customer sensitivity. Hierarchical culture is closely related to group culture among organizational culture types. Large organizations and public institutions are generally said to be heavily influenced by hierarchy. Thus, in hierarchical cultures, it is repeatedly emphasized that the long-term interest of an organization is its stability, predictability, and effectiveness (Acer, 2012). Collective culture emphasizes in particular the values and goals, harmony, participation, and personality of each other. Typical characteristics of the collective culture are the united unity of the members of the organization and the union of the members (Nanjundeswaraswamy and Swamt, 2014).

Acer (2012) found that hierarchical culture is closely related to group culture among organizational culture types. Hierarchical and group cultures have similar characteristics in terms of internal focus and integration, not in terms of external focus and differentiation. In addition, while hierarchical cultures focus on the stability and control of organizational cultures, group cultures differ in that they focus on flexibility and discretion of organizational cultures. Organizations with higher hierarchical culture characteristics among organizational culture types show characteristics of organizational culture similar to that of other groups. Hierarchical culture emphasizes organizational efficiency by rules and policies because organization emphasizes form and structure and emphasizes internal control, and has the advantage of systematic organizational management and good information management and documentation (Cameron and Quinn, 2011). In addition, when hierarchical culture fails to properly respond to the external environment due to rigid compliance with regulations and procedures within the organization, there are side effects of formalism and bureaucracy. This hierarchical culture is similar to the group culture in that it focuses on internal activities and improves organizational efficiency through integration (Nazarian et al., 2017).

Mastroianni (2014) shows that hierarchical and collective cultures have similar characteristics of organizational culture in that they focus on internal organizational activities and aims for integration, which promotes and leads leaders within an organization. Have a direct impact on the collective culture. Leadership in a collective culture is manifested in the form of facilitator leadership and leader leadership, where the relationship between managers and followers focuses

on cohesion and morality with each other and always strives to encourage the ideas and personalities of each follower. Leadership through teamwork, openness, and strong communication skills, can help managers follow and care and comfort their followers as well as their personal affairs.

3. The Relationship between Clan Culture and Market Culture

Among the organizational culture types, group culture is closely related to rational culture. In terms of organizational culture, group culture focuses on flexibility and discretion in terms of internal focus and integration, while rational culture focuses on external focus and differentiation in terms of stability and control (Dimitrov, 2016; Sosnovskikh, 2016). Dimitrov (2016) analyzed the relationship between organizational culture and strategy in an organization. He suggests that organizational culture follows strategy and that strategy follows organizational culture. In addition, he emphasized that the better the organization, the better the organization's culture. The analysis shows that group culture and rational culture have a lower impact on strategy execution than hierarchical and development culture. This means that hierarchical and rational cultures are less concerned with developing and implementing policies within the organization, but with the development of structural factors within the organization, using resources and promoting motivation within the organization.

Sosnovskikh (2016) emphasized that the organizational culture of Toyota Motors, which represents Japan, is aiming at rational culture based on the collective culture historically through the study on the organizational culture of Toyota Motors in Japan. In his research on Japanese organizational culture, Hofstede (2004) suggested cultural differences in five areas of power concentration, individualism and collectivism, masculinity, uncertainty avoidance, and time-orientation. It is based on group culture. The characteristics of the organizational culture that led Toyota's growth as a global company today have traditionally been a group culture based on the samurai spirit, and have been developed in the form of adding a rational culture to this group culture in order to compete as a global company. Emphasis is placed on points.

Among the organizational culture types, group culture is closely related to rational culture. Collective culture emphasizes in particular the values and goals, harmony, participation, and personality and personality of each other. Typical characteristics of the collective culture are the united unity of the members of the organization and the union of the members (Gungor and Sahin, 2018). Organizations with rational cultures are sensitive to changes in new competitors, and their primary focus is on interrelations with these competitors. The main value of this rational culture is its competitiveness and productivity, and it is always ready to accept and

compete with the external environment and change (Felipe et al., 2017; Leal-Rodriguez et al, 2015; Pinho et al., 2014).

Cameron and Quinn (2011) suggest that group culture is closely related to rational culture among organizational culture types. In terms of organizational culture, group culture focuses on flexibility and discretion in terms of internal focus and integration, while rational culture focuses on external focus and differentiation. Organizations with high characteristics of developmental culture among organizational cultures show characteristics of organizational culture similar to rational cultures compared to other organizations. Collective culture emphasizes the flexibility and individuality of the internal activities of the organization, focusing on the harmony and harmony of the members (Markovic et al., 2017), while increasing the loyalty and morale of the members, while improper participation. A disadvantage is that uniform incentives and evaluations can be made with attendance at inefficient meetings, which are similar to rational cultures in that they focus on internal activities and increase organizational efficiency through flexibility (Mastroianni, 2014).

Felipe et al. (2017) found that group culture emphasizes flexibility and prudence while maintaining and integrating internal organizational activities, while rational culture is focused on stability and control while maintaining and differentiating external organizational activities. There are similarities and differences. This rational culture correlates with the collective culture that promotes and leads leaders within an organization. Leadership in a collective culture is manifested in the form of facilitator leadership and leader leadership, where the relationship between managers and followers focuses on cohesion and morality with each other and always strives to encourage the ideas and personalities of each follower. Leadership, through teamwork, openness, and strong communication skills, can help managers follow and care and comfort not only their followers but also their personal affairs.

III. STUDY DESIGN

1. Study Model and Hypothesis

The conceptual model for this study is based on the studies of Cameron and Quinn (1999, 2006), Mastroianni (2014), Kim (2004, 2019, 2020), Kim et al (2018), and Mete (2017). The model is built around the factors of characteristics of hierarch culture, clan culture, and market culture. First, characteristics of hierarch culture are measured with the variables of coordinator leadership and monitor leadership. Second, characteristics of clan culture are measured with the

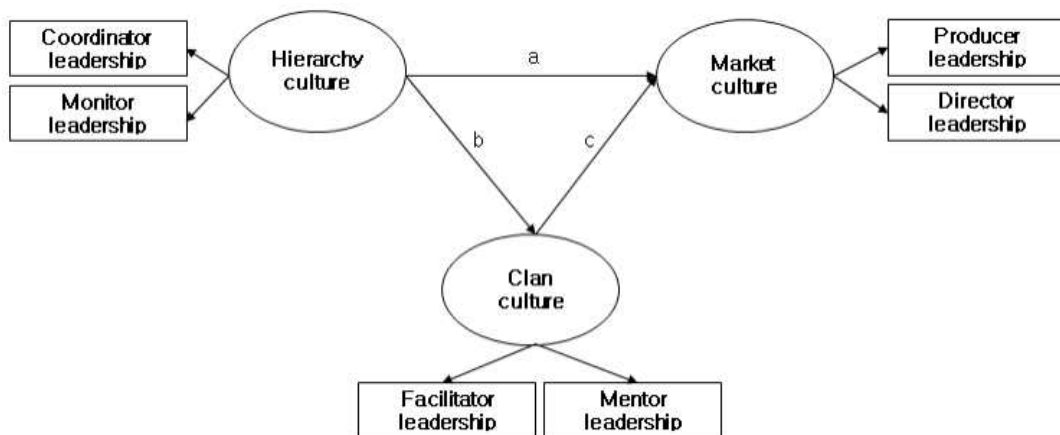
variables of facilitator leadership and mentor leadership. Third, characteristics of market culture are measured with the variables of producer leadership and director leadership. This paper sets the following two hypotheses to determine a structural relationship among characteristics of hierarch culture, clan culture, and market culture.

Hypothesis 1: Clan culture will have a notable partial mediation effect in the relationship between hierarch culture and market culture.

Hypothesis 2: Clan culture will have a notable complete mediation effect in the relationship between hierarch culture and market culture.

2. Sample Design and Study Method

〈Figure 1〉 Conceptual Research Model



The paper analyzed the relationships among characteristics of hierarch culture, clan culture, and market culture. The author of this paper conducted a survey January 2, 2022 to March 31, 2022 targeting cultivators which have middle managers or above position of public sector.

1000 of survey questionnaires were distributed and 380 survey questionnaires were completed by respondents. From the 380 responses, 348 of papers were used in an empirical analysis. 32 completed survey questionnaires were discarded due to inappropriate responses and/or input errors.

The data analysis for the study was completed in three steps. The first step conducted a frequency analysis in order to analyze the distribution of basic statistics on the survey subject. The second step conducted a reliability analysis and factor analysis in order to analyze the reliability of the factors of characteristics of hierarch culture, clan culture, and market culture. The reliability analysis used Cronbach's alpha and factor analysis and the main factors were

extracted from a principal components analysis and varimax method. The third step applied a structured equation model to inquire into the structural relationship among characteristics of hierarch culture, clan culture, and market culture. The study model and verification of the study hypotheses adopted a 95% significance level. The statistics analysis of the study used AMOS 24.0 and SPSS 24.0 software.

IV. EMPIRICAL ANALYSIS RESULTS

1. Basic Statistics Analysis

The basic statistics analysis of the 348 survey responses resulted in the following distribution patterns of the surveyed categories. In “Gender” category, female shows the higher distribution with 214 (61.5%), while male shows the lower distribution with 134 (38.5%). In “Ages” category, “31-40 age” shows the highest distribution with 112 (32.2%), while “Over 61’s” shows the lowest distribution with 30 (8.6%). In the “Educational level” category, “under graduate school” shows the highest distribution with 123 (35.3%), while “graduate school (M.D)” shows the lowest distribution with 45 (12.9%). In “Carrier” category, 3-5 years shows the highest distribution with 123 (35.3%), while less than 1 year shows the lowest distribution with 30 (8.6%) respectively.

〈Table 1〉 Analysis Results of Basic Statistics from 348 Survey Responses

	Classification	Frequency	Percentage (%)
Gender	Male	134	38.5
	Female	214	61.5
Ages	20-30 age	57	16.4
	31-40 age	112	32.2
	41-50 age	97	27.9
	51-60 age	52	14.9
	Over 61's age	30	8.6
	Educational level	High school	58
College		65	18.7
Under graduate		123	35.3
Graduate school(M.D)		45	12.9
Graduate school(Ph.D)		57	16.4
Carrier	Less than 1 year	30	8.6
	1-2 years	51	14.7
	3-5 years	123	35.3
	6-10 years	71	20.4
	Over 11 years	73	21.0
	Total	348	100.0

* Non-respondents are excluded from the table

2. Analysis on Reliability and Validity

1) Analysis Results on Explored Factor Analysis

Looking at the analysis results on reliability and validity of characteristics of organizational culture, a total of 24 items of characteristics of hierarchy culture, clan culture, and market culture were measured with three items being related to cultivation for not only organizational culture but also leadership style, eight items being related to coordinator and monitor leadership for hierarchy culture, eight items being related to facilitator and mentor leadership for clan culture, and eight items being related to producer and director leadership for market culture. First, the Eigen value of the sub-variable of characteristics of hierarchy culture are verified for cultivation for hierarchy culture (Eigen value=6.11), clan culture (Eigen Value=5.74) and market culture (Eigen value=4.24) respectively.

Next, the distributed explanatory (variance percentages) on the sub-variable of characteristics of hierarchy culture shows that cultivation for hierarchy culture is 25.49%, clan culture is 23.93%, and market culture is 17.67%. Meanwhile, the total distributed explanatory on the sub-variable of organizational environment is verified as 67.10%. Last, the analysis on the sub-variable of characteristics of oriental orchid are verified for cultivation for hierarchy culture (Cronbach's alpha=0.92), clan culture (Cronbach's alpha=0.94), and market culture (Cronbach's alpha=0.85) respectively. Therefore, the reliability on the sub-variable of characteristics of organizational culture probes to be appropriate.

〈Table 2〉 Analysis on Reliability and Validity of Characteristics of Organizational Culture

Classification	Hierarch culture	Clan culture	Market Culture
A4	0.88	0.03	0.18
A19	0.84	0.11	0.04
A31	0.83	0.14	0.06
A8	0.82	0.20	0.09
A27	0.81	0.15	0.12
A23	0.76	0.14	0.39
A12	0.73	0.09	0.23
A15	0.56	0.35	0.17
A1	0.24	0.88	0.29
A17	0.17	0.80	0.30
A5	0.30	0.79	0.23
A9	0.27	0.78	0.27
A29	0.35	0.76	0.18
A21	0.27	0.74	0.22
A13	0.14	0.73	0.22
A25	0.58	0.65	0.03

A7	0.16	0.13	0.76
A30	0.14	0.24	0.76
A2	0.19	0.09	0.69
A18	0.19	0.32	0.64
A10	0.21	0.30	0.61
A14	0.22	0.21	0.55
A26	0.20	0.29	0.55
A22	0.23	0.26	0.47
Eigenvalue	6.11	5.74	4.24
% of variance	25.49	23.93	17.67
cumulative %	25.49	49.43	67.10
cronbach's alpha	0.92	0.94	0.85

2) Analysis Results on Confirmed Factor Analysis

The study conducted a confirmed factor analysis prior to verifying a partial mediation effect and complete mediation effect suggested in mediation models of this study. As the result of conducting a confirmed factor analysis of the three variables (e.g. characteristics of hierarchy culture, clan culture, and market culture) and twenty four observation variables, the goodness of fit level of the overall confirmed factor analysis was verified as appropriate, except from the goodness of fit index of GFI, AGFI, RMR, and RMSEA. Therefore, the study model of this paper proved to be appropriate to verify a partial mediation effect and complete mediation effect as the mediation models suggest in this study.

<Table 3> Analysis Results on Confirmed Factor Analysis

Classification		Statistics	Criteria	Test
χ^2	Chi-square	2358.752 (d.f=249, p=0.000)	p>0.05	Rejected
NFI	Normal Fit Index	0.926	≥0.90	Accepted
RFI	Relative Fit Index	0.911	≥0.90	Accepted
IFI	Incremental Fit Index	0.933	≥0.90	Accepted
TLI	Tucker-Lewis Index	0.919	≥0.90	Accepted
CFI	Comparative Fit Index	0.933	≥0.90	Accepted

3. Verification Results of the Structural Equation Model

1) Analysis on Partial Mediation Model

The study conducted an empirical analysis using a partial mediation model to verify the changes on characteristics of clan culture caused by hierarchy culture and market culture. The

empirical analysis results are as follows:

The path coefficient value standardized in the study models shows at the level of Chi-square χ^2 (0.1 in direction of + and - respectively, (Chi-square)=2358.752, NFI (Normal Fit Index)=0.926, RFI (Relative Fit Index)=0.911, IFI (Incremental Fit Index)=0.933, TLI (Tucker-Lewis Index)=0.919, CFI (Comparative Fit Index)=0.933. Therefore, the goodness of fit of the analyses proves to be properly structured.

〈Table 4〉 Analysis on Fit Measures for Partial Mediation Model

Classification		Statistics	Criteria	Test
χ^2	Chi-square	2358.752 (d.f=249, p=0.000)	p>0.05	Rejected
NFI	Normal Fit Index	0.926	≥0.90	Accepted
RFI	Relative Fit Index	0.911	≥0.90	Accepted
IFI	Incremental Fit Index	0.933	≥0.90	Accepted
TLI	Tucker-Lewis Index	0.919	≥0.90	Accepted
CFI	Comparative Fit Index	0.933	≥0.90	Accepted

The study conducted an empirical analysis by setting Hypothesis 1: Clan culture will have a notable partial mediation effect in the relationship between hierarchy culture and market culture.

The results of the empirical analysis show that clan culture has a notable effect on hierarchy culture ($\mu=0.238$, $t=8.558$, $p<0.001$) as well as market culture ($\mu=0.607$, $t=9.582$, $p<0.001$), but hierarchy culture had not a notable effect on market culture. In the meantime, clan culture did not have a notable effect on hierarchy culture and market culture. This means that clan culture has not partial mediation effect on the relationship between hierarchy culture and market culture. Therefore, the Hypothesis 1 was not selected.

〈Table 5〉 Analysis on Structured Equation Model for Partial Mediation Model

Hypothesis	Measurement paths		Estimate	S.E.	C.R.	P
H1	Clan culture	← Hierarch culture	0.238	0.028	8.558	0.000***
H2	Market culture	← Hierarch culture	0.034	0.021	1.591	0.112
H3	Market culture	← Clan culture	0.607	0.063	9.582	0.000***

*** $p<0.001$, ** $p<0.01$, * $p<0.05$

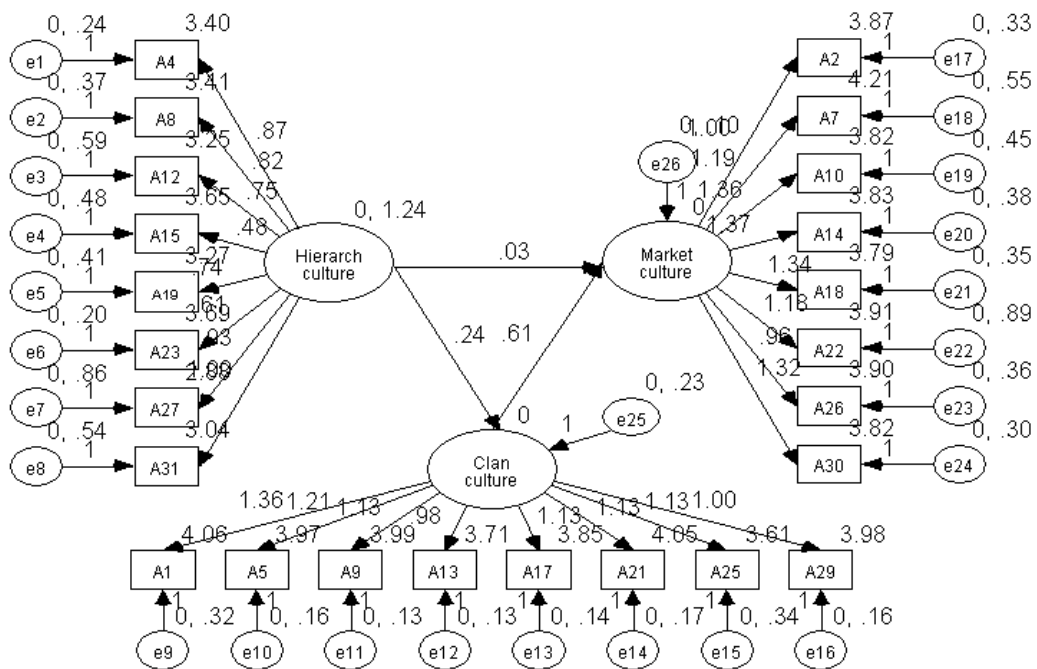
2) Analysis on Completed Mediation Model

The study conducted an empirical analysis using a complete mediation equation model to verify the changes on characteristics of clan culture caused by hierarchy culture and market

culture. The empirical analysis results are as follows:

The Path coefficient value standardized in the study models shows at the level of Chi-square <0.01 in direction of + and - respectively, (Chi-square)=2361.181, NFI (Normal Fit Index)=0.926, RFI (Relative Fit Index)=0.911, IFI (Incremental Fit Index)=0.933, TLI (Tucker-Lewis Index)=0.920, CFI (Comparative Fit Index)=0.933. Therefore, the goodness of fit of the analyses proves to be properly structured.

<Figure 2> Analysis on Structured Equation Model for Partial Mediation Model



<Table 6> Analysis on Fit Measures for Complete Mediation Model

Classification	Statistics	Criteria	Test
χ^2	Chi-square	2361.181 (d.f=250, p=0.000)	p>0.05 Rejected
NFI	Normal Fit Index	0.926	≥0.90 Accepted
RFI	Relative Fit Index	0.911	≥0.90 Accepted
IFI	Incremental Fit Index	0.933	≥0.90 Accepted
TLI	Tucker-Lewis Index	0.920	≥0.90 Accepted
CFI	Comparative Fit Index	0.933	≥0.90 Accepted

The study conducted an empirical analysis by setting Hypothesis 2: Clan culture will have a

notable complete mediation effect in the relationship between characteristics of hierarchy culture and market culture.

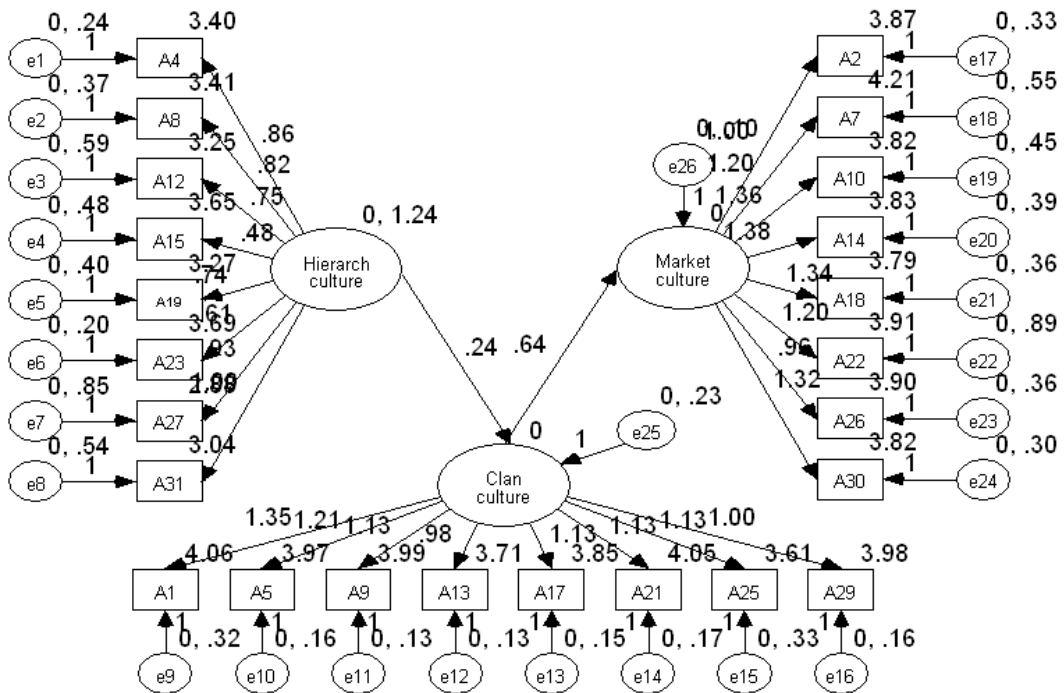
The results of the empirical analysis show that clan culture has a notable effect on hierarchy culture ($\mu=0.241$, $t=8.667$, $p<0.001$) as well as market culture ($\mu=0.640$, $t=10.391$, $p<0.001$). In the meantime, clan culture has a notable effect on hierarchy culture and market culture. This means that clan culture has a complete mediation effect on the relationship between characteristics of hierarchy culture and market culture. Therefore, the Hypothesis 2 was selected.

〈Table 7〉 Analysis on Structured Equation Model for Complete Mediation Model

Hypothesis	Measurement paths	Estimate	S.E.	C.R.	P
H1	Clan culture ← Hierarch culture	0.241	0.028	8.667	0.000***
H2	Market culture ← Clan culture	0.640	0.062	10.391	0.000***

*** $p<0.001$, ** $p<0.01$, * $p<0.05$

〈Figure 3〉 Analysis on Structured Equation Model for Complete Mediation Model



V. CONCLUSION

This study has examined the relationship between hierarchy culture and market culture according to clan culture. Previous studies have conducted empirical analyses in which organizational culture and leadership style were used as a mediation effect such as partial mediation effect and completed mediation effect. The results of this study are as follows:

First, as a result of analyzing correlation between public organization culture and women leadership using CVF, the following results were obtained. First, among the Korean women's administrative organizational cultures, hierarchical culture had a positive effect on group culture. Among public organizational cultures, hierarchical culture seems to be closely related to group culture. This means that women belonging to Korean women's administrative organizations that have hierarchical culture among public organizational cultures have characteristics of female leadership such as coordinator leadership and supervisory leadership. It has a positive effect on formation. Therefore, Hypothesis 1 was adopted.

Second, among Korean women's administrative public organizational cultures, group culture had a negative effect on rational culture. Among public organizational cultures, group culture is negatively related to rational culture. This implies that women's leadership of women belonging to Korean women's administrative organizations with group culture negatively influenced the organization's atmosphere into a rational culture.

Third, hierarchical culture had a positive effect on rational culture. Hierarchical culture of public organizational culture is closely related to rational culture. This means that women belonging to Korean women's administrative organizations with hierarchical cultures have characteristics of female leadership such as coordinator leadership and supervisory leadership. It has a positive effect on formation.

As a result of analyzing validation of the organizational culture assessment instrument using structural equation modeling, the implication and contribution are as follows. First, Schein (2010), in his study of organizational culture and leadership, said that "long-term analysis" is very important. Longitudinal analysis refers to long-term research, which has been common in the West for at least 10 years, and Schein (2010) reiterates that longitudinal analysis is indispensable if it is static and not easily changed, such as organizational culture. Kim (2004, 2019) also said that 'Longitudinal analysis' is essential when studying the role of public bureaucracy of men and women, as Korean society is patriarchal and Confucian inclination while studying Korean organizational culture. Therefore, much research on women's administration should be poured out.

Second, public organizational cultures were classified into four types: clan culture, adhocracy culture, hierarchy culture, and market culture. Existing researches on organizational culture have

focused on horizontal organizational culture, vertical organizational culture in terms of organizational management and control, personal culture, team culture, organizational culture, and corporate culture in terms of organizational hierarchy. From the point of view of cultural differences, this study studied the comparison between individualism and collectivism, the concentration of power, the avoidance of insecurity, and the model of cultural differences in masculinity. Although the existing researches on the type of organizational culture were applied to the private sector or the public sector, they were generalized. However, these studies did not suggest the differences from the co-organizational culture and the specificity of the co-organizational culture. Derived the research results that can be applied to systematically classify types of public organizational culture.

This study limitedly discussed the results of the correlation detection between public organizational culture and women's leadership using CVF. Measures for public organizational culture, women's leadership, and Korean women's administration, which are included in the research model proposed in this study, need to be improved in the future by using surrogate variables. In the future study, the internal validity of the sample to be investigated should be increased in consideration of the homogeneity of the members of Korean women's administration. The use of mediation and moderating variables in the relationship between women leadership by co-organizational culture, and further research is needed to reinforce the results of the correlation between co-organizational culture and women leadership by using CVF. Therefore, this study suggests the limitations of the study on the measurement variables of the research model, securing the homogeneity of the sample to be examined, and the use of parameters and control variables.

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김혁영(金赫英): Monash University, Melbourne, Australia에서 경영학박사를 수료하고, 중원대학교에서 행정학 박사를 취득 후 현재 중원대학교 연구교수로 재직 중이다. 주요 관심 분야는 조직학, 여성학, 인간관계론(철학) 등이고, 최근 저서로는 *Public Sector Leadership and Organizational Culture: Becoming a Leader for Public and Private Sector*(2020), 최근 논문으로는 “국내 수출기업의 개발형 리더십이 합리형 리더십에 미치는 영향”(2019), “The effect of hierarchy culture on clan leadership and organizational commitment of export-driven SMEs”(2020), “글로벌기업의 집단형 문화가 합리형문화에 미치는 영향 - 여성리더의 직위와 경력의 매개효과를 중심으로”(2020) 등이 있다.(hyuklucy19@gmail.com)

박기관(朴起觀): 건국대학교에서 행정학 박사 학위를 취득하였으며, 강원행정학회 회장, 한국지방자치학회 회장을 역임하였으며, 주요 관심 분야는 균형발전, 지방분권 정책이며, 현재 상지대학교 행정학부 교수로 재직 중이다.(pkg2000@sangji.ac.kr)

국문요약

조직문화 평가기구에 관한 타당성 검토:
SEM(Structure Equation Modeling)을 이용하여

김혁영

박기관

본 연구는 공공부문 여성 중간관리자를 대상으로 여성리더십과 조직문화가 미치는 영향을 분석하기 위해서 경쟁가치모형(The Competing Values Framework, CVF)에 대한 측정도구를 개발하고 경쟁가치지표(Competing Values Indicators, CVI)를 개발한 후에, 그 연구결과를 글로벌 연구로 확산하는데 연구의 목적이 있다. 또한 조직문화를 평가하는 데 있어서 SEM (Structure Equation Modeling)이 얼마나 타당한지를 검토하는 것이다. 본 연구는 CVF (Competing Values Framework) 설문지를 인용하여 348 여성 공무원들을 대상으로 했다. 조직문화와 리더십에 대한 본 연구의 결과는, 첫째, 여성공무원들의 조직문화 중에서 위계문화가 단체문화에 가장 긍정적인 영향을 보였다. 즉 공무원들의 조직 속에서 여성들은 공조직 문화 중에서 위계문화 (조정자 리더십, 감시자 리더십)에 가장 높은 수치를 보였다. 둘째, 한국의 공조직들 중에서 그룹문화가 합리형 문화에 부정적인 영향을 끼치고 있다. 즉, 공조직 중에서 단체문화에 높은 수치를 보이고 있는 공조직 여성의 리더십은 합리형 문화에 부정적인 영향을 끼치고 있다. 셋째로, 위계형 문화가 합리형 문화에 긍정적인 영향을 미친다. 위계형 문화가 가장 가깝게 영향을 미치는 것이 합리형 문화라고 조사되었다. 이 조사의 결과는 조직형성에 긍정적인 영향을 미친다고 풀이 되었다. 본 연구에서 경쟁가치모형(CVF)으로 도출된 여성리더십, 조직문화, 조직몰입의 하위변수들에 대한 측정도구의 신뢰성과 타당성의 결과에 기초해서 학제간 연구로 공공부문의 경쟁가치지표를 개발해서 균형성과표(Balanced Score Card, BSC)와 핵심성과지표(Key Performance Indicators, KPI)와 연계한 실증연구를 강화할 필요가 있다. 본 연구에서 도출된 공공부문 여성리더의 경쟁가치모형(CVF)에 대한 측정도구 개발, 연구모형의 타당성 검증, 조직문화의 매개효과검증, 일반화추정모형(GEE) 적용, 경쟁가치지수(Competing Values Indicators, CVI)의 연구결과가 석, 박사학위논문과, 대학원 강좌에 개설됨으로써 조직행동론, 리더십이론, 조직문화에 대한 연구가 심화될 것으로 사료된다.

주제어: 여성리더십, 조직문화, 경쟁가치모형, 측정도구, 경쟁가치지표