

# **Innovation-Support Organizational Culture and Organizational Commitment: Focused on Mediating Effects of Organizational Satisfaction**

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**ABSTRACT:** *This study was based on panel data provided by Korea Research Institute for Vocational Education and Training (KRIVET). The focus of this study is on the effects of innovation-support organizational culture on the attitude of the employees. Specifically, we analyzed the effects of innovation-support organizational culture on organizational satisfaction and organizational commitment. The number of samples included in the analysis was 10,069. As a result, the innovation-support organizational culture positively affected organizational satisfaction and organizational commitment. Also, organizational satisfaction was mediated by the relationship between innovation-support organizational culture and organizational commitment. Therefore, all the hypotheses set in this study were supported. Based on the results of the analysis, the implications of this study and future research directions were discussed.*

**KEYWORDS:** *Innovation-Support Organizational Culture, Organizational Satisfaction, Organizational Commitment, Panel Data*

## **I. INTRODUCTION**

Innovation is an important factor in ensuring organizational sustainability and competitive advantage [1]. Also organizational innovation allows start-ups to enter the market successfully. Organizational innovation is a very important factor in the survival and growth of a company. Therefore, the innovation-oriented organizational culture will have an important effect on the performance of the company and the attitude of the members [2]. Innovation is defined as the creation and execution of new ideas through relationships with others [3]. To create innovative ideas, the organizational climate is of the utmost importance. Because, if there is an organizational culture that does not express it even though it has a lot of new ideas, there will be no active exchange of information and creativity.

Organizational culture has very diverse assumptions and definitions depending on the researcher. According to the researcher who introduced the concept of organizational culture at the beginning, It is defined as a combination of various concepts such as symbolism, language, ideology, consciousness, tradition, etc. existing in the organization [4]. Depending on the culture the organization has, it will have a significant impact on the behavior and attitude of its employees. According to previous studies, organizational culture has been identified as the most important factor in the innovation behavior of the employees [5], [6]. In particular, the organizational culture in which members can speak freely and the smooth relationship with the supervisor have a positive effect on the members' voice behavior [7]. According to the organizational culture, the behavior and attitude of the members are greatly influenced. In addition, the supervisor's leadership has a great influence on the attitude and behavior of the members [8], [9].

The purpose of this study is to verify the influence of innovation-support organizational culture and to examine the influence of organizational commitment through organizational satisfaction process so as to increase innovation which is an important factor in firm 's competitive advantage. For the empirical analysis, we used the panel data provided by the Korea Research Institute for Vocational Education and Training (KRIVET). The number of employees included in the analysis was 10,069. The research questions set in this study are as follows.

- *Research Question 1. How will innovation-support organizational culture affect organizational satisfaction?*
- *Research Question 2. How will innovation-support organization culture affect organizational commitment?*
- *Research Question 3. Is there a mediating effect of organizational satisfaction on the relationship between innovation-support organizational culture and organizational commitment?*

## **II. THEORETICAL BACKGROUND AND HYPOTHESIS**

### **2.1 Innovation-Support Organizational Culture and Organizational Satisfaction**

Innovation Support Organizational culture includes support for organizational support for innovation seeking, acceptance for diversity of members, and organizational rewards for innovative performance, to the extent that members help and support new ideas [10]. Employees will freely express their opinions and ideas if they are not having difficulty expressing themselves freely in their organization or team. This organizational climate will improve both individual creativity and group creativity. According to previous research, it has been shown that if an organization has an climate to support innovation, it positively affects its attitude or behavior [11].

Employees who perform their duties in an organization with an organizational culture of innovation support provide many opportunities for creativity. When employees can freely express their opinions, their satisfaction with the organization improves. In addition, the organizational culture of innovation support positively affects the attitude of innovation behavior and job satisfaction [12]. Therefore, a positive support culture for organizational innovation will positively affect the satisfaction of the members.

- *Hypothesis 1. Innovation-support organizational culture will positively affect organizational satisfaction.*

### **2.2 Innovation-Support Organizational Culture and Organizational Commitment**

Innovative-support organization culture increases the psychological safety of members and brings active communication. Therefore, it is expected that the improvement of organizational commitment can be expected because the possibility of adopting opinions or ideas is increased. Because innovation has inherently high uncertainty and the risk of failure, members are afraid of innovation behavior. However, if the organization perceives that it is providing adequate support for innovation, it also increases the likelihood of attempting and succeeding in innovation behavior [13], [14].

Organizational support positively affects the behavior and attitude of the members. This can be understood in terms of social exchange theory. Perceived support from the organization can lead to increased commitment to the organization. In other words, the care and attention of the organization improves the loyalty of the organization members to the organization [15].

According to previous research on organizational support, organizational support positively influences organizational citizenship behavior [16], the relevant meta-analysis showed positive effects on various outcome variables [17]. In other words, if we perceive support from the organization in terms of social exchange relation of members, it can be inferred that the organizational commitment will increase.

- *Hypothesis 2. Innovation-support organizational culture will positively influence organizational commitment.*

### **2.3 Mediating Effect of Organizational Satisfaction**

Satisfaction with the organization can be seen from various perspectives. The most studied area is job satisfaction. In this study, i used the variable of organizational satisfaction because i measured the overall satisfaction of the organization perceived by the panel data.

Satisfaction can be the satisfaction of their work, the satisfaction of their peers working with themselves, and the satisfaction of the whole organization. In this study, organizational satisfaction is used as a concept that includes all of the above-mentioned satisfaction.

Organizational satisfaction will have a mediating effect on the relationship between innovation-support organizational culture and organizational commitment. This is because the innovation-support organizational culture can increase the satisfaction of the members and the increased satisfaction can increase the commitment of the members. The core of this process can be explained on the basis of the reciprocal norm. It can be inferred that the innovation-support organizational culture increases the organizational commitment through the satisfaction process of the members.

- *Hypothesis 3. Organizational satisfaction will mediate the relationship between innovation-support organizational culture and organizational commitment.*

The research model based on the above discussion is as follows (Fig1).

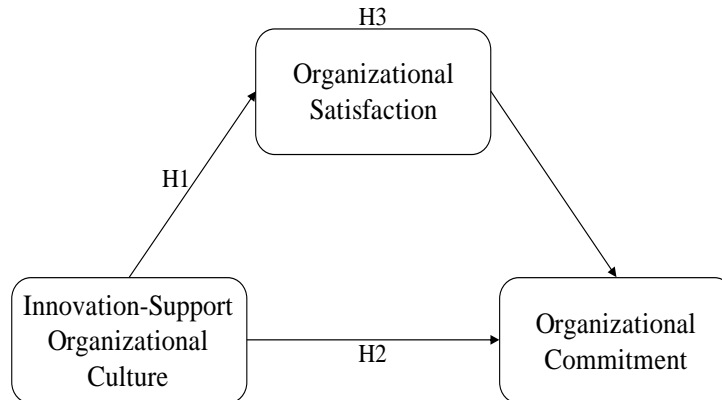


Figure1. Research Model

### III. METHODS

#### 3.1 Panel Data

The data used in this study are panel data provided by the Korea Research Institute for Vocational Education and Training (KRIVET). KRIVET collected data six times, and the data used in this study are the 6th data collected from the employees. Panel data is structurally time-series data and can be analyzed longitudinal. Panel data is structurally time-series data and can be analyzed longitudinal. The number of data included in this study is 10,069, which includes more data than the survey.

#### 3.2 Measures

All variables used in this study were measured on a 5 point Likert-scale. Examples of questions relevant to the innovation-support organizational culture include "In our organization, compensation for innovation is done properly" and "Our organization prefers more creative people than sincere people". Measures for organizational satisfaction included "I am satisfied with the present job" and "I am satisfied with the wages I am currently receiving". The measurement items for organizational commitment are "I feel the problem of my company like my problem" and "I am loyal to the company". As a result of the measurement of the Cronbach alpha value, all the variables exceeded the reference value by 0.7 or more.

### IV. RESULTS

#### 4.1 Exploratory Factor Analysis

Exploratory factor analysis was conducted to verify the reliability and validity of the items used in the panel data. The results were divided into three items and the Eigen value of all items was 1 or more. The factor loadings of all items were 0.5 or more (Table 1).

Variables	Items	Factor 1	Factor 2	Factor 3
Innovation-Support Organizational Culture	Organizational culture3	<b>.811</b>	.108	.109
	Organizational culture2	<b>.803</b>	.161	.271
	Organizational culture1	<b>.795</b>	.186	.218
Organizational Commitment	Commitment2	.130	<b>.806</b>	.143
	Commitment3	.225	<b>.792</b>	.263
	Commitment1	.101	<b>.784</b>	.146
Organizational Satisfaction	Satisfaction3	.129	.141	<b>.820</b>
	Satisfaction1	.190	.230	<b>.794</b>
	Satisfaction2	.283	.185	<b>.697</b>
Eigen Value		3.969	1.267	1.012
Proportion of Variance (%)		44.105	14.074	11.242
Cumulative Proportion of Variance (%)		44.105	58.179	69.421
Cronbach's $\alpha$		.795	.772	.747

Table 1: The Results of Exploratory Factor Analysis (n=10,069)

**4.2 Confirmatory Factor Analysis**

Confirmatory factor analysis was performed to verify the reliability of the items used in the measurement. All three variables were measured with three items. The results are as follows. Because the model fit and most of the values met the criteria, the reliability of the measure items has validity (Fig2), (Table2).

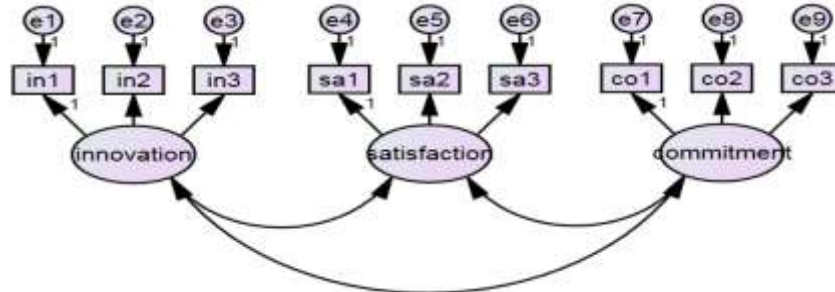


Figure2. Confirmatory Factor Analysis of Variables

Variables	Items	B	S.E	t	$\beta$	AVE	C.R
Innovation-Support Organizational Culture	Organizational culture1	1	-	-	.782	.595	.813
	Organizational culture2	1.045	.015	71.899	.826		
	Organizational culture3	.848	.014	60.996	.651		
Organizational Satisfaction	Satisfaction1	1	-	-	.776	.584	.808
	Satisfaction2	1.071	.018	59.416	.682		
	Satisfaction3	.864	.015	59.500	.684		
Organizational Commitment	Commitment1	1	-	-	.634	.547	.780
	Commitment2	1.270	.023	55.204	.688		
	Commitment3	1.459	.025	58.833	.872		
Model Fit	$\chi^2=458.032(d.f.=24, p<.001)$ , CMIN/DF=19.085, NFI=.986, IFI=.986, TLI=.980, CFI=.986, RMSEA=.042, ***P<.001						

Table 2: The Results of Confirmatory Factor Analysis (n=10,069)

**4.3 Correlations**

In this study, gender, education level, and major were set as control variables. The relationship between the control variables and all variables was analyzed. Through this, we predicted the relationship between variables in advance. As a result of the correlation analysis, the innovation-support organizational culture showed positive correlation with organizational satisfaction and organizational commitment. Also, it showed a positive correlation with organizational satisfaction organizational commitment (Table3).

Variables	M	SD	1	2	3	4	5
Gender	1.21	.406	1				
Education	4.86	1.605	-.101***	1			
Major	2.55	1.349	-.058***	-.054***	1		
Innovation	3.27	.801	-.081***	.068***	-.006	1	
Satisfaction	3.55	.698	-.054***	.138***	-.024*	.496***	1
Commitment	3.34	.825	-.142***	.112***	-.003	.398***	.470***

Table 3: Correlation between variables

Note. \*\*\*p<.001, \*\*p<.01, \*p<.05, M: mean, SD: Standard Deviation (n=10,069)

**4.4 Hierarchical Regression Analysis**

Hierarchical regression analysis was conducted to verify hypotheses. In order to verify Hypothesis 1, we analyzed the relationship between innovation-support organizational culture and organizational satisfaction. As a result, Hypothesis 1 was supported because the innovation-support organizational culture had a positive effect on organizational satisfaction ( $\beta=.439, p<.01$ ), (Table4).

To verify Hypothesis 2 and Hypothesis 3, we proceeded with the verification procedure of Baron and Kenny (1986) [18]. Hierarchical regression analysis showed that the innovation-support organizational culture positively influenced organizational commitment, and Hypothesis 2 was supported ( $\beta=.409, p<.001$ ), (Table5). In addition, the mediating effects of organizational satisfaction were found to be statistically significant in Model 3 (Table5), and Hypothesis 3 was also supported.

Variables		DV: Organizational Satisfaction	
		Model 1	Model 2
Control Variables	Constant	.2941***	1.582***
	Gender	-.093***	-.030
	Education	.138***	.109***
	Major	-.010†	-.009†
Independent Variables	Innovation-Support Organizational Culture(H1)	-	.439**
$R^2$		0.19	.276
$\Delta R^2$		-	.257
$F$		42.902***	644.965***

Table 4: Regression analysis for Hypothesis 1

Note.  $n=10,069$ , DV: Dependent variable, \*\*\* $p<.001$ , \*\* $p<.01$ , \* $p<.05$ , † $p<.10$

Variables		DV: Organizational Commitment		
		Model 1	Model 2	Model 3
Control Variables	Constant	2.996***	1.728***	1.065***
	Gender	-.289***	-.231***	-.218***
	Education	.129***	.101***	.056***
	Major	-.003	-.002	.002
Independent Variables	Innovation-Support Organizational Culture(H2)	-	.409***	.225***
Mediating Variable	Organizational Satisfaction(H3)	-	-	.419***
$R^2$		.029	.186	.275
$\Delta R^2$		-	.157	.089
$F$		68.198***	386.764***	513.688***

Table 5: Regression analysis for Hypothesis 2&3

Note.  $n=10,069$ , DV: Dependent variable, \*\*\* $p<.001$ , \*\* $p<.01$ , \* $p<.05$

#### 4.5 Sobel Test

This study examined the mediating effects of organizational satisfaction. In addition to the hierarchical regression analysis, the Sobel test was additionally performed. This confirms the mediating effect of organizational satisfaction. As a result of the Sobel test, the mediating effect of organizational satisfaction was statistically significant, and Hypothesis 3 was supported (Table6).

Hypothesis	Path(Mediating effect)	Sobel Test Statistic	p-value
H3	Innovation-Support Organizational Culture → Organizational Satisfaction → Organizational Commitment	2.788**	0.005

Table 6: Results of Sobel Test (\*\* $p<.01$ )

## V. CONCLUSION

This study is based on empirical analysis of employees in Korean companies. Based on the data, we examined the effect of innovation-support organizational culture on the attitude of members, and verified the mediating effect of organizational satisfaction. As a result of the analysis, the innovation-support organizational culture positively influenced the organizational commitment and organizational satisfaction of the employees. Also, organizational satisfaction has a mediating effect on the relationship between innovation-support organizational culture and organizational commitment. Therefore, all three hypotheses set in this study were supported. As confirmed by the

results of the analysis, the support culture in the organization is very important. In particular, strong support for innovation has a positive effect on the attitude of the employees. Therefore, organizations or corporations should try various ways to form a culture of innovation support organization. Innovation support organization culture can increase organizational innovation and group creativity from a long-term perspective.

This study implies that the panel data provided by the Korea Research Institute for Vocational Education and Training (KRIVET) was utilized. This contributed to the generalization of the research results because 10,069 data were used for analysis. It is the data collected by the national organization and thus it is the material that has obtained reliability and validity. Therefore, the scope of research should be extended by combining more research subjects.

Future research directions should be carried out using longitudinal data analysis using panel data. Since this study used cross - sectional analysis using panel data, it can be extended to a wider range of studies if the longitudinal analysis is conducted for the same research area. In future research, i should expand the research by extracting various factors that can be utilized in the panel data.

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