The Mediating Effect of Teachers' Motivation Factors on the Relationship Between and Organization Culture and Organization Policyon Teachers' Competencies Private Universies in Shenyang City

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ABSTRACT

The purpose of this study were: 1). To investigate the status on teachers' competencies of Private university in Shenyang city. 2). To development the model factors affecting teachers' competencies of Private university in Shenyang city. And 3). To verified the factors affecting teachers' competencies of Private university in Shenyang city.

This study includes 4 private universities in Shenyang City, the population was total of 2,376 teachers. The sample size determined by G*power was 449 teachers, and using stratified random sampling method. The instrument was a 5 point scale questionnaire for the data collection. The data analyzed by descriptive statistics with SPSS software and inferential statistic with confirmation factor analysis (CEA) and structural equation modeling (SEM) by AMOS.

The results found that: 1) The status on teachers' competencies of Private university in Shenyang city were at high level. 2) The model factors affecting teachers' competencies of Private university in Shenyang city fit well with empirical data (Chi/df=2.363, TLI=0.971, CFI=0.981, RMSEA=0.55) and 3) the organization culture factors affecting teachers' competencies in private universities, as follows; the organizational culture and teacher motivation factors had no direct effect on the teachers' competencies, but the organization

culture factors and organizational policies had direct effect on teacher motivation factors (p<.01). And organizational policies had direct effect on the teachers' competencies (p<.01) in private universities. Teacher motivation factors not mediating role in the relationship between organizational culture and organizational policies.

Keywords: Teachers' competencies teacher motivation, organizational culture, organizational policies

1. Research background

The importance of studying the competency of teachers in private universities in Shenyang cannot be underestimated. This research is critical to improving the quality of private education. Through an in-depth understanding of teachers' teaching ability, professional knowledge and educational skills, schools and educational institutions can provide teachers with targeted support and training, thereby improving their education and teaching competence, further promoting the improvement of education quality, improving students' learning ability and learning result. At the same time, as the reform and innovation of the private education system continue to advance, research on teacher competency can also help private universities understand new educational needs and challenges, and provide teachers with the necessary support to adapt to the changing educational environment. In addition, through the study of teacher competency, it can provide guidance and support for the career development of teachers in private universities, help them continuously improve in teaching skills, curriculum design and educational evaluation, and improve their teaching effectiveness and career satisfaction. At the same time, this research will also help to establish a scientific and reasonable teacher evaluation system, provide a scientific basis for the selection, promotion and reward of teachers, and promote the optimization and development of the teaching team. Finally, the research on the factors of teacher competency in private universities can also make up for the lack of research on teacher competency in China's private education. Through research, promote the professional growth of teachers in private universities in Shenyang, promote the improvement of education and teaching ability, and provide more useful reference and reference for the reform and development of private education. Therefore, the research on the competency of teachers in Shenyang private universities has an important and far-reaching impact.

2. Research Objectives

1. To investigate the status on teachers' competency of Private university in Shenyang city.

2. To development the model factors affecting teachers' competency of Private university in Shenyang city.

3. To verified model factors affecting teachers' competency of Private university in Shenyang city fit well on the empirical data.

3. Conceptual Framework

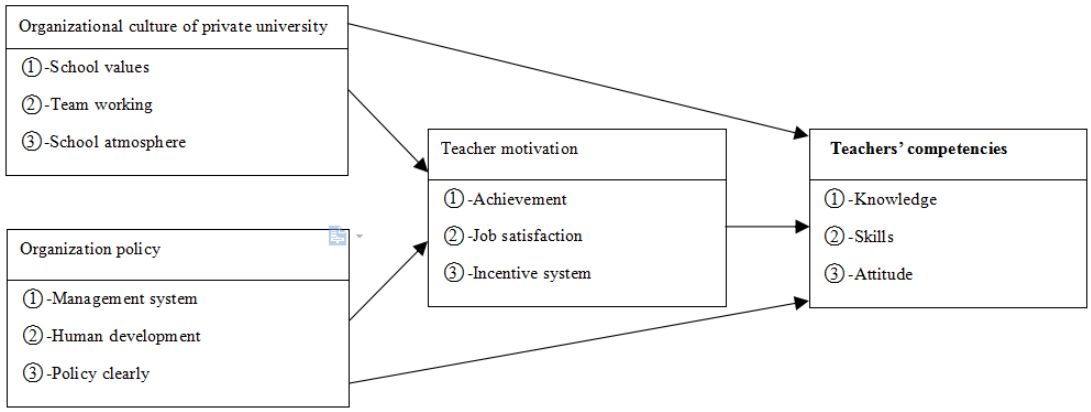

Figure 1-1 Research conceptual framework

3.1 Research Design

This study were quantitative research design, and focus on the relationship among Organizational culture, Organization policy, Teacher motivation and Teachers' competencies. It is more about the investigation, understanding and analysis of the current situation, and using theory to explain this phenomenon.

This thesis takes the teachers of Shenyang Private University as the survey object, adopts the statisfied random sampling method to 449 teachers. and conducts model analysis on the collected data. Therefore, this study mainly adopts the following methods: quantitative analysis method; literature research method ; investigation research method.

3.2 Population and Sample

3.2.1 Population

There are 4 private universities in Shenyang City, The subjects of this study are teachers from private universities in Shenyang. They all have senior or intermediate

professional titles in universities. These university teachers have their own opinions and experience in teacher competency research, and they all hold relevant positions in universities.

3.2.2 Sample

The samples size were 449 people calculate by G* power program at power of test.80 and using stratified random sampling method. Detail As follows.

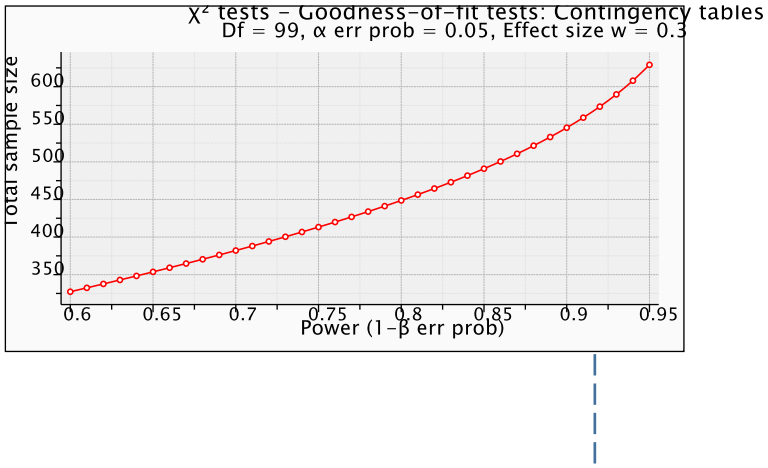

Figure 2-1 The relationship between sample size and power

The sample will be selected from the population of teachers in the 2023 school year through statistical random sampling, and a final sample of 449 teachers was used. As shown

Table 2.1 Population and Faculty Sample of Private Universities in Shenyang

Shenyang Private University School	Population	Sample
Shenyang City University	700	132
Shenyang Urban Construction University	500	95
Liaoning Communication University	800	151
Shenyang University of Science and Technology	376	71
Total	2,376	449

The data from the websites of private universities in Shengyang, (2023)

3.3 Research Instrument

3.3.1 Number of instruments

The instrument in this study will use a 5- Likert scoring on the 5 sections of questionnaire as follows: (1). Demographic of respondents (2). The teachers' competency

questionnaire 3 items. (3). The questionnaire on organizational culture 3 items. (4). The questionnaire on organizational policies 3 items. And (5). The questionnaire on teachers' motivation 3 items.

3.3.2 Instrument development steps

Content validity find out from the opinion of 5 experts and all the items had validity (IOC) between 0.60 to 1.00, and from tryout the quastionnare had the reliability of each part were between 0.60 to 1.00.

3.4 Data Analysis

1. Descriptive statistics are used to describe demographic variables and Analyze by frequency and percentage, mean and standard deviation with SPSS software.

2. Analyze the collected data and test hypotheses with competency factor analysis and structural equation model by the AMOS software.

4. Result

1. Demographic Information Analysis

The researcher conducted a questionnaire survey at 4 private universities in Shenyang City. A total of 449 questionnaires were sent out and 447 questionnaires were returned, with a recovery rate of 99.5%. Demographic information is shown in Table 3.1.

Table 1 Demographic Information

Variables	Level	Frequency	Percentage
Gender	Male	181	40.4%
	Female	266	59.5%
	Total	447	100
Age	20-35	76	17.0%
	between 35-55	263	58.8%
	more than 55	108	24.1%
	Total	447	100
Have Work	Yes	445	99.5%
	No	2	0.4%
	Total	447	100
Education	Undergraduate	37	8.2%
	Master	329	73.6%
	Doctor	56	12.5%
	Post-Doctoral	22	4.9%

Variables	Level	Frequency	Percentage
	Others	3	0.6%
	Total	447	100
Professional	beginner	21	4.6%
	Intermediate lecturer	267	59.7%
	Professional	106	23.7%
	Senior Professional	52	11.6%
	Others	1	0.2%
	Total	447	100

As can be seen from the table 3.1, there were 447 samples, of which 59.5% were women and 40.4% were men, the age majority were between 35 and 55 years old 58.8%, 24.1%, were 55 years old, 17% were between 20 and 35 years old. They had work 99.5% and not work 0.4%. there were undergraduate accounted for 8.2%, Master education degree for 73.6%, and doctoral education degree for 12.5%, postdoctoral accounted for 4.9%, and others accounted for 0.6%. Professional level was beginner accounts for 4.6%, Intermediate accounts for 59.7%, Professional Title account for 23.7%, Senior Professional Title account for 11.6%, and others account for 0.2%.

2. Quantitative data analysis

Statistics used in this analysis include means, standard deviation, Skewness, Kurtosis, and Maria's coefficient. The data analysis results were shown in Table 3.2.

Table 2 Descriptive statistical analysis results

variable	$\overline{X}$	SD	level	Skewness		Kurtosis		multicolliniality	
				Statistic	Std. Error	Statistic	Std. Error	Totelanec	VIF
KN	3.36	0.84	moderate	-.19	.11	-.83	.23	.37	2.59
SK	3.35	0.91	moderate	-.24	.11	-.78	.23	.35	2.82
AT	3.42	0.85	moderate	-.04	.11	-1.03	.23	.39	2.55
SV	3.53	0.74	high	-.23	.11	-.85	.23	.45	2.24
TW	3.51	0.71	high	-.24	.11	-.79	.23	.39	2.59
SA	3.56	0.73	high	-.17	.11	-.83	.23	.44	2.27

variable	$\overline{X}$	SD	level	Skewness		Kurtosis		multicolliniality	
				Statistic	Std. Error	Statistic	Std. Error	Totelanec	VIF
MS	3.67	0.66	high	-.36	.11	-.57	.23	.50	2.00
HD	3.59	0.67	high	-.26	.11	-.76	.23	.43	2.35
PC	3.58	0.68	high	-.33	.11	-.57	.23	.44	2.25
AC	3.59	0.68	high	-.29	.11	-.81	.23	.38	2.63
JS	3.58	0.69	high	-.18	.11	-.90	.23	.33	3.07
IS	3.68	0.68	high	-.22	.11	-.87	.23	.56	1.78

See Table 3.2. The calculation of the average value of the questionnaire in this study shows that the higher average range of each observed variable was 3.35 to 3.68. The quantity and quality level of the questionnaire data can be seen from the average of these observed variables. The overall were at moderate to high level. The SD ranges from 0.66 to 0.91, the Skewness ranges from -0.04 to -0.35, and the Kurtosis ranges from -0.56 to 1.03. which indicate the normality of the data. and suitable for the next step of analysis. (Bourn, 2010)

Under the assumption of univariate normality test, the researchers studied skewness and kurtosis. In the data analysis (Skewness less than 2 and -2, Kurtosis less than 10 and -10), and don't have on multicoliniality. that all variables distributed normal (Collier, 2020, p. 55). All validations are normally distributed while satisfying CFA Assumption Requirements.

3. Intercorrelation between observed variables

Table 3 Intercorrelation matrix (n = 447)

		KN	SK	AT	SV	TW	SA	MS	HD	PC	AC	JS	IS
KN	Pearson Correlation	1											
SK	Pearson Correlation	.722**	1										
AT	Pearson Correlation	.719**	.724**	1									
SV	Pearson Correlation	.314**	.329**	.273**	1								
TW	Pearson Correlation	.248**	.346**	.268**	.658**	1							
SA	Pearson	.212**	.294**	.222**	.645**	.651**	1						

		KN	SK	AT	SV	TW	SA	MS	HD	PC	AC	JS	IS
	Correlation	*	*	*	*	*							
MS	Pearson Correlation	.301**	.354**	.296**	.517**	.489**	.546**	1					
HD	Pearson Correlation	.280**	.369**	.280**	.389**	.487**	.405**	.554**	1				
PC	Pearson Correlation	.257**	.353**	.279**	.388**	.448**	.420**	.543**	.683**	1			
AC	Pearson Correlation	.239**	.340**	.278**	.448**	.558**	.477**	.404**	.564**	.578**	1		
JS	Pearson Correlation	.278**	.415**	.308**	.468**	.628**	.496**	.385**	.584**	.542**	.737**	1	
IS	Pearson Correlation	.216**	.291**	.251**	.445**	.444**	.475**	.388**	.388**	.356**	.565**	.588**	1

Note: *represent P <.05, ** P < .01, *** P < .001

From the correlation table matrix, we can see that there were positive correlation between all variables, and the p-value is less than 0.01, indicating that there was correlation value between 0.212 to 0.724 .

The correlation ranges of factor 1 were 0.722, 0.719 and 0.724, which are all greater than the values below the corresponding columns. The correlation ranges of factor 2 were 0.658, 0.645 and 0.651, which are all greater than the values below the corresponding columns and greater than the values on the left side of the corresponding rows. The correlation ranges of factor 3 were 0.554, 0.543 and 0.683, which are all greater than the values below the corresponding columns and greater than the values on the left side of the corresponding rows.The correlation ranges of factor 4 were 0.737, 0.565 and 0.588.

4. Measurement model

By testing the fitting model with the empirical data, it is obtained: Chi-square=185.217, Df=48, P.=0.000, Chi/Df=3.859, TLI=0.939, GFI=0.930, CFI=0.956, RMSEA=0.080. it some indicator was not acceptable, so the researcher use modified model by MI index follow up the program as figure 3-1.

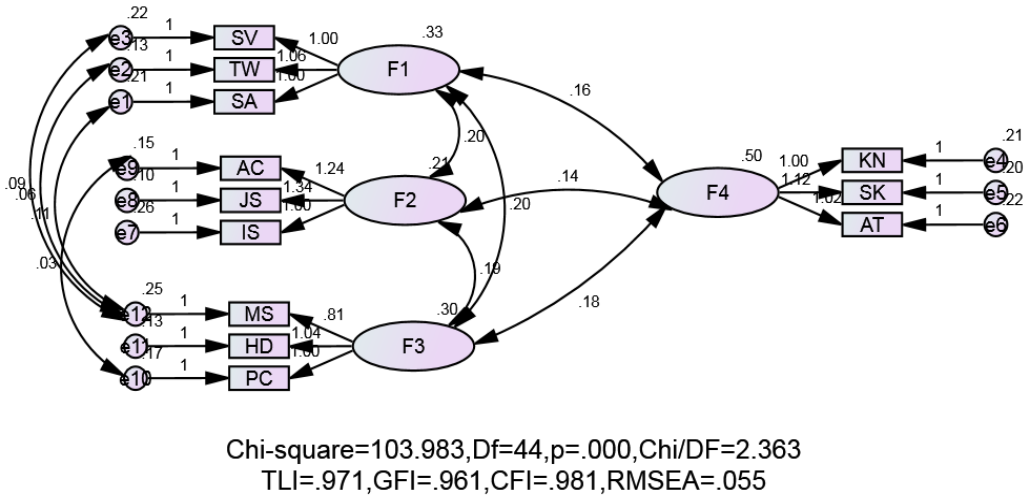

Figure 1 The Measurement Model in standardized estimates

See Figure 3-1 On standardized estimates. There were 4 latent variables in the measurement model, and the relationship between the 4 latent variables were correlation. The correlation coefficient between F1 and F4 was 0.16, the correlation coefficient between F2 and F4 was 0.14, the correlation coefficient between F3 and F4 was 0.18. The correlation coefficient of F1 and F2 was 0.20, the correlation coefficient of F2 and F3 was 0.19, and the correlation coefficient of F1 and F3 was 0.20.

By testing the fitting degree of the structural model, it is obtained: Chi-square=103.983, Df=44, P.=0.000, Chi/Df=2.363, TLI=0.971, GFI=0.961, CFI=0.981, RMSEA=0.055. The measurement model of CFA was fit well with empirical data as table 3.4.

Table 4 The indicators of criteria for testing model fit with empirical data.

Measure	Estimate	Terrible	Acceptable	Excellent
Chi-square/df	2.363	> 5	> 3	> 1
TLI	0.971	< 0.9	< 0.95	> 0.95
CFI	0.981	< 0.9	< 0.95	> 0.95
RESEA	0.55	> 0.08	> 0.06	< 0.06
PClose	0.00	< 0.01	< 0.05	> 0.05

Quality of the measurement model

On the measurement model, the researcher could be concluded for the quality of the model before as the table 3.5.

Table 5 Results of quality of model

	CR	AVE	MSV	MaxR(H)	F1	F2	F3	F4
F1	0.847	0.649	0.584	0.852	0.806			
F2	0.842	0.642	0.594	0.867	0.764***	0.801		
F3	0.819	0.603	0.594	0.833	0.695***	0.771***	0.777	
F4	0.886	0.721	0.212	0.887	0.410***	0.436***	0.461***	0.849

To identify the reliability of latent variables, CR≥0.70, MSV < AVE, MaxR(H) > CR, and to identify the convergent validity of the AVE≥0.50, to identify the discriminant validity by the method of Fornell & Larcker (1981, pp,39-50), the square root of AVE of latent variables must be more than its shared variance to other latent variables.

Reliability and validity

MaxR(H) and MSV were used to determine the discriminate validity and dependability. Usually,each variable's MaxR(H) value ought to be higher than its CR value and its MSV value ought to be lower than its AVE value. The MaxR(H) values for variables F1, F2, F3, and F4 were 0.852, 0.867, 0.833 and 0.887, respectively, see Table 4.5. The data show that each variable's MaxR(H) value was higher than CR value. Variables F1, F2, F3 , and F4 have MSV values of 0.584, 0.594, 0.594, and 0.212, respectively, with AVE values of 0.649, 0.642, 0.603, and 0.721. The findings demonstrated that all four variables' MSV values were lower than their AVE values, demonstrating the model's high dependability and validity.

1. Composite reliability(CR)

In the model, composite reliability was used to evaluate the reliability of the measurement model, with a cutoff criterion of 70 (Hair et al., 2017). Table 4.5 shows that the CR values were 0.847, 0.842, 0.819 and 0.886 respectively, all exceeding 0.7, which indicates that the measurement model is highly reliable.

2. Convergent validity (AVE)

Joint reliability (CR) and mean extracted variance, which determine the degree of convergence between variables and their component indicators, are referred to as convergent validity (AVE). The CR values of variables F1, F2, F3, and F4 were 0.847, 0.842, 0.819 and 0.886, respectively, as shown in the above table,and they are all higher than 0.7.(Collier, 2020,p. 87). The model variables exhibited strong internal convergent validity,as evidenced by the fact that the AVE values of variables F1, F2, F3,and F4 were 0.649, 0.642, 0.603 and 0.721, respectively,and were all greater than 0.5.(Collier,2020,p.83)

3. Discriminant valid

Different methods can be used to evaluate discriminant validity.Because the AVE value of each prospective construct should be higher than the matching Maximum shared variance (MSV), the initial strategy is to use it (Adedeji,Abdulkabir N.et al,2017). From the data analysis in Table 4.5, it can be seen that the AVE of F1, F2, F3, and F4 were: 0.649, 0.642, 0.603, and 0.721 respectively, which were all more than the matching MSV.

The second method was to use the Fornell & Larker criterion (Adedeji, Abdulkabir N.et al., 2017,(pp.149-170), which is evaluated by using the square root of AVE for each potential structure. This method is greater than the highest correlation between the structure and the other structures in the model. Data analysis in Table 4.5 shows that AVE square root of factors F1, F2,F3 and F4 were 0.806, 0.801, 0.777, and 0.849, respectively, and each value was greater than the correlation between variables.

Table 6 HTMT Analysis

	F1	F2	F3	F4
F1				
F2	0.770			
F3	0.731	0.761		
F4	0.406	0.431	0.470	

The usage of the Heterogeneous Trait Mono Trait (HTMT) technique (Henseler,J. et al., 2015, pp. 115-135) was the third method of assessing discriminant validity and it was a better way to measure discriminant validity between constructs. According to Gold, Malhotra, and Segars (2001, pp.185-214), the criterion for stringent discriminant validity was 0.850, and the barrier for free discriminant validity was 0.900. (Teo, Srivastava, & Jiang, 2008, pp.99-132).The bootstrap confidence intervals for HTMT in all facet combinations cannot include 1, and all values were lower than 0.9, showing that each variable is strongly linked (Henseler, Ringle, & Sarstedt, 2015,pp. 115-135). The HTMT approach the proportion analysis of within-trait to between-trait correlation between two constructs. The cutoff criterion for evaluating discriminant validity is acceptable if the ratio in the matrix is less than 0.90, and it is recommended if it is less than 0.85. (Yusoff et al., 2020, pp.1-7). The ratio in Table 4.6's data analysis was between 0.406 to 0.770, which was less than 0.85, indicating that the concept had strong discriminant validity.

5. Hypothesis model testing

The Structural Equation Models and Model Evaluation in Unstandardized: (Chi-square=103.983, Df=44, p=0.000, Chi/DF=2.363, TLI=0.971, GFI=0.961, CFI=0.981, RMSEA=0.055). indicating that the structural The model of this study was fit with empirical data.

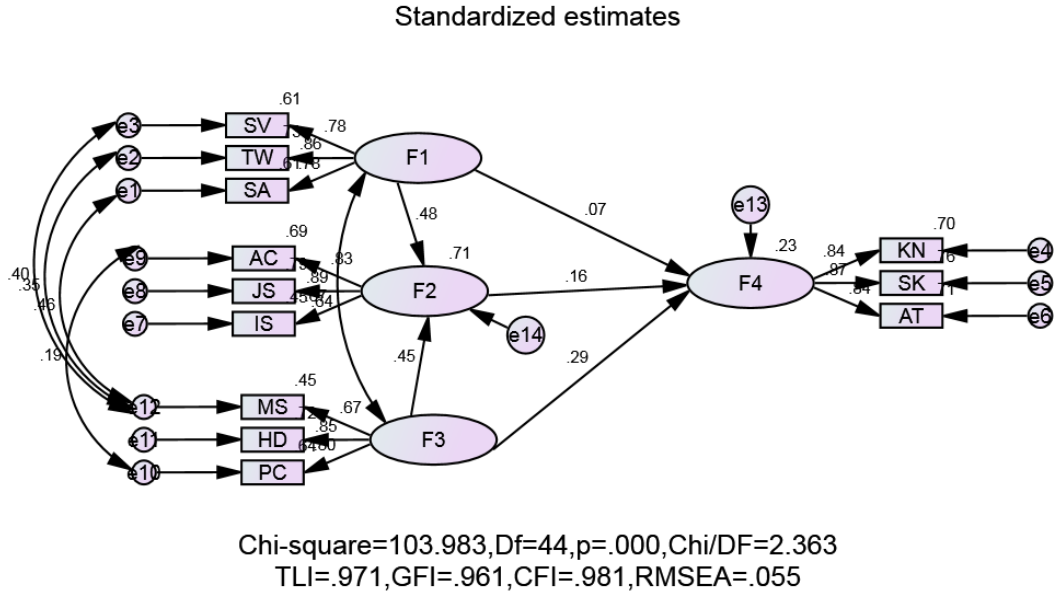

Figure 2 Structural Equation Models and Model Evaluation in Standardized

The standardized coefficient was a standardized estimate. The standard deviation of the data was 1, which indicates the relative change degree of the data distribution. The number on the arrow was between 0 and 1. The closer it was to 1, it means that the independent variable has a greater impact on the variable. It was used to identify important (the larger the number, the more significant). Chin (1998) recommended R^2 values for endogenous latent variables based on: 0.67 (substantial), 0.33 (moderate), 0.19 (weak). This division is usually empirical. Generally, the closer the value of R^2 is to 1, the better the model can fit the data.

As can be seen from Figure 3-2, F1, F2, and F3 as independent variables directly affect F4, and their coefficients were 0.07, 0.16, and 0.29 respectively. The coefficient of F1 directly affecting F2 was 0.48. F3 directly affects F2 with a coefficient of 0.45. F2 serves as an intermediary variable for F1 and F3 to influence F4.

The researchers tested the fitting degree of the structural model, and the fitted structural model data: (Chi-square=103.983, df=44, p=0.000, Chi/df=2.363, TLI=0.971, GFI=0.961, CFI=0.981, RMSEA=0.055). The structural model of this study is reasonable and analyzable.

Table 7 Standardized Regression Weights: (Group number 1 - Default model)

Latent variables	Estimate	S.E.	C.R.	p	Standardized	Hypotheses
F1 ⟶ F2	.385	.048	8.079	***	.484	H4
F3 ⟶ F2	.378	.050	7.617	***	.449	H5
F3 ⟶ F4	.378	.114	3.301	***	.293	H2
F1 ⟶ F4	.086	.104	.833	.405	.071	H1
F2 ⟶ F4	.248	.174	1.425	.154	.161	H3

**p<0.050, ***P<0.001)

According to the analysis results in Table 3.7, there were only 3 factors. had effected on teachers' competencies significant (P<.001). Therefore, F1⟶F2 has a significant direct impact (accept H4), F3⟶F2 has a significant direct impact(accept H5) , and F3⟶F4 has a significant direct impact (accept H2). but F1 --> F4 and F2--> F4 no significant.

Table 8 the direct and indirect effect of factors on teachers' competencies.

Latent variables	DE	IE	TE
F1 ⟶ F2	0.484***	-	0.484
F3 ⟶ F2	0.449***	-	0.449
F2 ⟶ F4	0.161	-	0.161
F3 ⟶ F4	0.293***	0.073	0.366
F1 ⟶ F4	0.071	0.078	0.149

5. Conclusion

1) The status on teachers' competency of Private university in Shenyang city were at high level.

2) The model factors affecting teachers' competency of Private university in Shenyang city fit well with empirical data (Chi/df=2.363, TLI=0.971, CFI=0.981, RMSEA=0.55)

3) The organization culture, organizational policies and teacher motivation factors affecting the competency of teachers in private universities, and teacher motivation factors had positive effect on relationship between the organization culture, organizational policies and the competency of teachers in private universities. But on the full model the organizational policies as moderating effect on relationship between Teacher motivational factors and organizational culture on the competency of teachers in private universities. The

hypothesis test conclusion as follows;

H1: Organizational culture factors no had direct effect to teachers' competencies.

H2: Organization policy factors had positive direct effect to teachers' competencies.

H3: Teacher motivation factors no had positive direct effect to teachers' competencies.

H4: Organizational culture factors had positive direct effect to teacher motivation.direct impact on establishment.

H5: Organization policy factors had positive direct effect to teacher motivation.

H6: Organizational culture no had indirect effect to teachers' competencies via teacher motivation.

H7: Organization policy no had indirect effect to teachers' competencies via teacher motivation.

6. Discussion

The organization culture, organizational policies and teacher motivation factors affecting the competency of teachers in private universities, and teacher motivation factors had positive effect on relationship between the organization culture, organizational policies and the competency of teachers in private universities. But on the full model the organizational policies as moderating effect on relationship between Teacher motivational factors and organizational culture on the competency of teachers in private universities. The hypothesis test conclusion as follows;

(1).H2:(Organization policy/F3) factors had a positive direct impact on (Teachers' competencies/F4).It has been concluded that the normalized path coefficient of F3⟶F4 (H2) was set to 0.293, CR was 3.301, which is statistically significant (***P<0.001). It was proved that the hypothesis (H2) of this study was correct, Therefore, organizational policies has a positive and direct impact on teacher competency. These research results are the same as those of Gao Shipeng(2021), and Cao Zhifeng (2018) .Xu Jianping (2022) research pointed out that in private universities, organizational policy factors have an important and positive impact on teacher competency.

(2).H4: (Organizational culture/F1) factors had a positive direct impact on (Teacher motivation/F2). It has been concluded that the normalized path coefficient of F1⟶F2 (H4) was set to 0.484, and CR was 8.079, which is statistically significant (***P<0.001). It was proved that the hypothesis (H4) of this study was correct. Therefore, organizational culture has a positive and direct impact on teacher motivation. These research results are the same as

those of Li Hong (2021), Xiang Qiqi (2018) and Xia Yanyan (2017).

(3).H5: (Organization policy/F3) factors had a positive direct impact on (Teacher motivation/F2). It has been concluded that the normalized path coefficient of F3⟶F2 (H5) was set to 0.449, and CR was 7.617, which is statistically significant (***P<0.001). It was proved that the hypothesis (H5) of this study was correct. Therefore, organization policy has a positive and direct impact on teacher motivation. These research results are the same as those of Wang Qiang(2008),He Qun (2014) and Zhang Yugang (2012)

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