

## Development of State-Business Relation Scale

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### ABSTRACT

By analyzing the nature of state-business relation and the influence of PPPs on it, defining the connotation of state-business relation and dividing its dimensions. Through interviews and discussions, we got the scale of State-business relation under the PPP mode. Finally, evaluating the internal validity, internal structure, internal consistency and stability, aggregation validity and discrimination validity of the scale by quantitative analysis of 109 sample data, and obtaining the final scale. The scale consists of 4 factors and 11 items. The measurement of state-business relation under PPP model will provide theoretical basis and operational tools for researchers to study the mechanism of state-business relation in the future, and provide reference and basis for enterprises to analyze the characteristics of state-business relation.

**Keywords:** Public-private-partnership; State-business relation; Scale development

### INTRODUCTION

In the process of economic development, the government plays a leading role in the allocation of public resources in the market by formulating various policies and regulations; merchants as the main body of the economy play a major role in the distribution of market resources, and state-business relation jointly allocate resources in the market. Decisive, State-business relation determines the efficiency of resource allocation [1], and affects the level of economic development of the country. For various reasons, there are still more or less problems in state-business relation between developed and developing countries. In order to further promote economic development, it is necessary to conduct in-depth investigations on the problems existing in state-business relation, so as to find ways to improve state-business relation.

In state-business relation, in addition to the problems that have arisen, with the constant changes of the environment, various factors have put forward new requirements for state-business relation. The development of PPPs has the most typical impact on state-business relation.

Taking China as an example, according to the data of China PPP Integrated Information Platform Project Library, as of the end of September 2017, China had a total of 14 424 PPPs projects with

a total investment of 18.2 trillion yuan [2], with the scale of China's infrastructure construction. With the continuous expansion, the PPP model will become an unstoppable trend in the infrastructure sector. However, because the PPP model differs from the traditional model in terms of financing model, distribution of interests and risks, and control of government and social capital, it puts new demands on state-business relation, and has created new problems in the implementation process, for example: in PPP model, the transformation of government roles has changed from a traditional project controller to an equal partner of the project.

In order to grasp the status quo of state-business relation and quantitatively evaluate state-business relation, a scale that can better reflect the status quo of political and business is indispensable. A complete scale can help researchers quickly complete the survey and grasp the current situation of the things they need to understand.

However, there is still a lack of management issues, the status quo of state-business relation and the new problems arising from the PPP model on state-business relation. To this end, this paper aims at the problems existing in the current state-business relationship, and combines the PPP model to develop a new problem for state-business relation, hoping to improve the basis of state-business relation and research reference.

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In the PPP mode, the government has the closest contact with merchants, and the problems are the most and most typical. The efficiency of cooperation between social capital and political commerce directly affects the performance of the project. To understand the current situation of state-business relation in a country or region, the PPP model can be used as a starting point for the investigation of state-business relation. In addition, state-business relation has different forms of expression. A subscale is difficult to adapt to all forms. The PPP model has a great impact on state-business relation. Therefore, this scale item is mainly for state-business relation in the PPP model.

## MATERIALS AND METHODS

### The Connotation of State-Business Relation

The "state" in state-business relation is the creator of the country's existing policies, laws, and norms, and has a guiding and normative role for the non-public economy. From a macro perspective, "state" represents government power. From a micro perspective, "state" refers to the current government official in a department. "Business" is based on the regulations and policies formulated by "state", and creates social wealth through its own management. It is the implementer and practitioner of the policy. At the macro level, "business" refers to the market under the market economic system; from a micro perspective, "business" refers to entrepreneurs, especially non-public entrepreneurs. Specifically, state-business relation is mainly reflected in the following three aspects [3].

First, the relationship between the government and the market. From the perspective of rights and capital, state-business relation is the relationship between rights and wealth. The key to achieving specific political or economic goals is to find the best balance between rights and wealth [4].

Second, the relationship between the government and the enterprise. As the maker of public policy, the government plays a decisive role in the distribution of public resources. As the controller of market resources, the two will inevitably have a relationship in the process of resource allocation. Some scholars believe that state-business relation is the optimal allocation of resources [5].

Third, the relationship between officials and businessmen. The direct external performance of officials and businessmen as state-business relation, the interpersonal relationship between officials and businessmen, and social capital constitute the main part of state-business relation.

The relationship between the government and the market, government and enterprises, and officials and businessmen is a macro-to-micro representation of state-business relation. The three together constitute the comprehensive connotation of traditional state-business relation. However, under the new trend, the impact of the PPP model cannot be ignored. The impact of the PPP model on state-business relation must be considered. Therefore, the study will have four impacts from the government and the market, government and enterprises, officials and businessmen, and the PPP model. The aspect studies state-business relation.

### Deconstruction of state-business relation

The most essential relationship between the government and the market is that the government and the market can complement each other and jointly promote economic development [6]. The market will affect its role due to market failures and market defects. Similarly, the government's intervention in the economy also has market failures. Therefore, it is necessary to complement the advantages of the market and the government to jointly promote economic development. In order to adapt to the arrival of the new economic normal, the relationship between the government and the market needs to be constantly improved, especially the solution of excessive government intervention and vacancy [7]. The key to the relationship between the government and the market is to deal with the relationship between the government and the market in resource allocation [8]. The key to state-business relation lies in how the government can play a good role in the government's macroeconomic regulation and control and conduct market supervision, so that the market economy can achieve rapid market development under the joint effect of macroeconomic regulation and market regulation. The main purpose of the government's market intervention is to make up for the shortcomings of market behavior, services and markets, and to ensure the continued healthy operation of the market. The government's role in the market is mainly through three means: 1) Dynamic adjustment of monetary and fiscal policies. Economic development plan; 2) Establish a market supervision system to combat market violations; 3) Participate in the secondary distribution of income to ensure the normal operation of the market.

### Deconstruction of the relationship between government and enterprises

Although the characteristics of the relationship between different types of enterprises and the government are different, the relationship between the government and the enterprise mainly reflects three aspects: (1) Whether the enterprise can obtain the order in the market is the decisive factor for the survival of the enterprise. You can get orders in the market through advertising and establishing good relationships with potential customers. On the other hand, because the government has a lot of public resources, companies can also get orders in the hands of the government.

The government and the company are better off. The more orders an enterprise receives [9]. (2) As the main body of market supervision, the government is responsible for approving the product access of enterprises and the development of business activities. Good state-business relation can help enterprises obtain more "scarce resources" in administrative approval [10].

In addition to the relationship between the traditional government and enterprises mentioned above, Government service is another important form of state-business relation. Under the framework of democracy politics, the service-oriented government is guided by the public standard and the social standard. Established in accordance with certain rules to serve the public and society for the purpose of government [11]. Under the framework of a service-oriented government, the

government should provide the necessary services for enterprises. For example, enterprises are vulnerable to the risk of financing in the process of production economy. The reasons for this are that corporate credit shortage and information asymmetry are the reasons for corporate financing difficulties, and good government-enterprise relations can improve the credit level of enterprises and help enterprises obtain more [12]. In areas where tax collection and management is stronger, this effect is more obvious [13]. Through the above analysis, the relationship between government and enterprises is concentrated in three aspects: government orders, administrative approval and government services.

### Deconstruction of the relationship between officials and businessmen

The most essential feature of the relationship between officials and businessmen is the relationship between people. In order to achieve specific goals in the process of dealing with the government, businessmen get "scarce resources" to communicate with officials; officials in this process of social interaction It is also possible to obtain legal and illegal income, and officials and businessmen can use each other as their own social capital. Among the measures of the social relationship intensity of social capital [14], is a measure of the strength of social relations in the personal center network questionnaire. Although the relationship between officials and merchants is a kind of social relationship, it also has its own characteristics. As an executor and supervisor of government policies, officials do not equate with the general social individual of society, and must maintain social public interests. Starting point, interact with businessmen. Luo mainly measures the social capital between people from the four aspects of communication time, intimate topic, intimate behavior and interaction frequency. In the PPP mode, government workers are dominant in communication and communication time. The frequency of interaction and interaction is mainly reflected in whether government workers can actively participate in the construction and operation of PPP projects, that is, participation time. Therefore, this study will study the relationship between officials and businessmen from three aspects: participation time, intimate topics and intimate behavior.

### State-business relation under PPP mode

Faced with the unstoppable trend of PPP mode, we should actively face the impact and problems of PPP mode on state-business relation. In the PPP mode, the government role is changed from the controller to the collaborator. Therefore, the relationship between the government and the social capital in the PPP model has also changed, from external influence to internal influence, resulting in the government and social capital. The relationship is closer and more difficult to measure, and the right variables must be found to describe the shift in government roles. In addition, under the PPP model, the supporting laws have also changed. From the public law to the existing "public law", it is also necessary to consider the "private law" [15]. The traditional public service providers only have the government, and the supporting laws are only administrative law; but under the PPP model, the public service provider is a

project company composed of the government and social capital. When a capital dispute occurs, it must consider the use of civil law and other private laws to resolve the dispute. The transformation of the supporting law is concentrated in whether the signed contract considers the change of the supporting law, that is, the legal basis of the dispute clause in the contract is changed from the Administrative Law to the Administrative Law and the Civil and Commercial Law.

## RESULTS

### Scale preparation

**Test item scale design principles:** In state-business relation, it is necessary to grasp two aspects. First, state-business relation must adapt to the current economic development and have a role in economic development. Second, state-business relation must be carried out within the scope permitted by law. In his speech at the National Federation of Industry and Commerce on March 4, 2016, Chinese President Xi Jinping proposed a new type of state-business relationship [16] for the construction of "pro" and "clear", which is in line with the requirements of state-business relation. Therefore, the construction of the state-business relation scale can be based on the "pro-clearism" proposed by General Secretary Xi Jinping. In the "Pro-clearism", "pro-" refers to the government's efforts to better serve business activities. For example, in the relationship between the government and the market, it is reflected in the government's market for appropriate macro-control and correct guidance. The development direction of the whole market; "clearism" means that the behaviors produced by the government are in line with the laws of market development and the requirements of laws and regulations, and do not harm the public interest. For example, in the relationship of the government market, the government's intervention in the market is appropriate and does not generate excessive government intervention. In the relationship between officials and businessmen, it means that the relationship between officials and businessmen is normal, and there is no illegality.

**Test topic generation:** In the development of the management syllabus, there are two methods commonly used to produce test questions: deductive method and inductive method. The deductive method is suitable for the definition of measurement constructs and has an accurate definition of the measurement range. The induction method is not suitable for the object being studied, and it is necessary to summarize the law of the measurement object from practice. The above has defined state-business relation and has a preliminary understanding of state-business relation. Therefore, this study uses the deductive method as the main method, and the inductive method supplements the test item of the scale.

The summary of the results of the existing research (deductive method) has been completed in the previous article. In order to ensure that the test items produced are more realistic and feasible, it is necessary to contact the staff involved in the construction of the PPP project to obtain direct first-hand information. Therefore, on the basis of summarizing the existing research on state-business relation, this study invites the

investigation of the status quo of Shenyang municipal business relationship and the improvement of the research method: based on the PPP model, 6 members of the group conducted exploratory interviews. The outline of the interview mainly includes 4 parts: (1) Ask the invitees to describe the government's intervention in the market and its effects according to their actual work experience; (2) Ask the invitees to tell the government's contact with the company based on their actual work experience. The process, and a brief summary of the relationship between the government and the company; (3) invite the invitees to use the indirect method of telling the process of contact between government officials and businessmen based on their actual work experience and The "powerful factors"; (4) invite the invitees to describe the impact of the PPP model on their relationship with the government based on their actual work experience. The results show that the interview results are rich enough, and there is no substantial impact on the four dimensions of State-business relation (the relationship between government and the market, the relationship between government and enterprises, the relationship between officials and merchants, and the PPP model impact).

Summarizing the results of deductive and exploratory interviews, the initial test items were generated. On this basis, in order to ensure the correctness of each test item and scale design, two Shenyang buildings with rich management research experience were invited. The university professor evaluates the correctness of the dimension design of the scale from a qualitative point of view, and adjusts the evaluation results that cannot meet the requirements. Finally, the research data generated by the integration process is finally obtained. The dimension of the state-business relationship scale in the PPP mode is shown in Figure 1. The measurement scale is shown in Table 1.

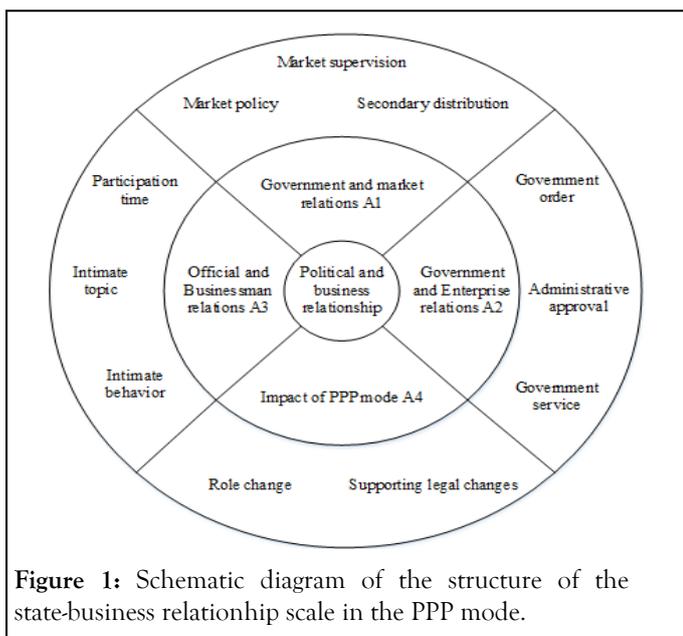


Figure 1: Schematic diagram of the structure of the state-business relationship scale in the PPP mode.

| Potential variable | Observed variable (scale item)   | Item number |
|--------------------|--|-------------|
| A1                 | The government's industrial policies for the operation guidelines and advice notices formulated by the PPP model have clear objectives, outstanding focus, operability, and obvious implementation effects.  | a1          |
|                    | The government has comprehensive supervision over PPP projects, appropriate supervision frequency, and scientific and reasonable supervision methods.  | a2          |
|                    | The government has formulated an innovative PPP project incentive policy, rational use of funds, and open and transparent reward funds.  | a3          |
|                    | In the bidding process of the PPP project, the government selected a qualified bidding agency to carry out detailed planning of the bidding process, carefully refine the evaluation plan, and defined the conditions for the identification of the certification materials in detail, the bidding results and the evaluation process. Made open and transparent | a4          |
|                    | The government's approval function for PPP projects is clear, the application materials are specific, the processing time is transparent, the approval procedures are standardized, and the approval personnel have a good attitude.   | a5          |
|                    | During the construction and operation of the PPP project, the government has a strong sense of service, comprehensive service functions, sufficient service input, and smooth service flow.  | a6          |

|    |  |     |
|----|--|-----|
|    | Government workers and social capital personnel participate in project construction and operation time   | a7  |
| A3 | The contents of government staff and social capital personnel exchanges are mainly on the design, construction and operational aspects of the project. | a8  |
|    | The government provides credit guarantees to social capital parties to the extent permitted by law to ensure project financing                         | a9  |
| A4 | The role of government is changed from controller to equal partner   | a10 |
|    | In the contract, the reference law for resolving disputes includes not only the Administrative Law but also the Civil and Commercial Law.              | a11 |

**Table 1:** State-business relationship measurement scale in PPP mode.

**Sample selection and data collection:** In the PPP mode, the government and the social capital side jointly complete the construction of public facilities. Some government responsibilities are transferred to social entities (enterprises) in the form of franchise rights.

The government and social entities establish “interest sharing, risk sharing, and full cooperation”. The community relationship, the government’s financial burden is reduced, and the investment risk of social entities is reduced.

The government has the closest connection with the social capital side, and the problems are the most and most typical. The efficiency of cooperation between social capital and political commerce directly affects the performance of the project. To understand the current situation of state-business relation in a country or region, the PPP model can be used as a starting point for the investigation of state-business relation. In addition, state-business relation has different forms of expression.

A subscale is difficult to adapt to all forms. The PPP model has a great impact on state-business relation. Therefore, this scale item is mainly for state-business relation in the PPP model.

According to the basic principles identified above, the selected survey targets are middle and high-level managers who are directly involved in the construction and operation of PPP projects in related enterprises that are constructed and operated with PPP projects. There are two main ways to issue questionnaires: one is to issue questionnaires on-site with the cooperation of Shenyang University of Construction Alumni and Shenyang Municipal Government Department. The content of the questionnaire, the purpose of the questionnaire and the correct way to fill out the questionnaire before the questionnaire is issued. Detailed instructions, after the completion of the completion, will be retracted by the contact. Another way is to use online questionnaires for PPP participants who are far away and inconvenient to conduct on-site questionnaires. The survey questionnaires are equivalently entered into the “questionnaire star”, and the links of the questionnaires are shared with the respondents. Complete the investigation. The respondent is required to complete the questionnaire according to his or her work experience within the prescribed time. The questionnaire is in the form of Link subscale. 5 of the Link 5 subscale indicates complete compliance, and 1 indicates complete non-conformity.

A total of 270 questionnaires were collected in this study, and the questionnaires with incomplete content and short answers and short answer times were excluded. 109 valid questionnaires were finally determined, and the effective recovery rate was 40.4%. Among the respondents with valid questionnaires, 81.2% were undergraduate or above, 89.9% were managers at the middle level or above, and all the respondents had a working life of more than 5 years. The work experience and professional knowledge of the respondents met the requirements of this study. The conclusions obtained are accurate and reliable.

### Scale evaluation

The development of the scale requires four evaluations of internal validity, internal structural validity, internal consistency and stability, polymerization validity and discriminant validity. This study will first invite senior experts to evaluate the internal validity of the scale. Then, using the data obtained from the above samples, SPSS 17.0 software firstly carried out Exploratory Factor Analysis (EFA), based on which AMOS 21.0 was used for Confirmatory Factor Analysis (CFA), integrated EFA and CFA. The results of the internal structural validity of the scale were evaluated. Finally, the internal consistency and stability of the scale, the validity of the aggregation and the discriminant validity were evaluated.

**Internal validity evaluation:** The evaluation of the internal validity of the scale, the research has been supported by a number of senior professors and experts. Professors and experts have evaluated the internal validity of the scale from three aspects: First, whether the test item is Representative Second, whether all the items completely cover the theoretical boundary of state-business relation; the third is whether the distribution ratio of test indicators is reasonable. The evaluation uses the

scoring method to qualitatively evaluate the internal validity, and requires the invited experts to score the representativeness, comprehensiveness and proportional rationality of the scale. Through the summary and analysis, the invited experts consider the representative of the scale to be representative. Strong, covering the entire content of state-business relation, the allocation ratio of each item is reasonable, and the internal validity of the scale is good.

**Internal structural validity evaluation**

**Exploratory factor analysis:** The main purpose of performing EFA analysis is to identify the main factors that influence the model. The main purpose of EFA in the development of scales is to find the influencing factors that the scale needs to consider in order to determine its structural dimensions. The common way to conduct EFA analysis is to perform principal component factor analysis. Therefore, this paper will use SPSS for principal component factor analysis on the identified 109 valid questionnaires. Before the principal component factor analysis, the data correlation is first verified to determine whether the data is suitable for principal component factor analysis. The verification is mainly carried out from two aspects: First, whether the correlation between the variables is consistent with the condition of the factor analysis. The commonly used test method is to test the KMO statistic; the second is to test whether the variables are independent of each other. If the variables are independent of each other, the principal component factor analysis cannot be used for EFA analysis. Bartlett's spherical test is the most commonly used test method. Using SPSS to calculate the KMO statistics and perform Bartlett's spherical test, the statistical results show that the KMO statistic is 0.681, which is greater than 0.5; the significance level of Bartlett's spherical test is 0.000, far less than 0.05; Conditions for factor analysis. In this study, four factors were extracted, the initial eigenvalues were all greater than 1, the cumulative variance explained contribution rate was 83.536%, and the interpretation of latent variables exceeded 50%. The principal component analysis and maximum variance method were used for factor rotation, 11 The observation items are attributed to 4 factors, and the load of each indicator on the factors is greater than 0.5 (see Table 2). Therefore, after the EFA analysis, four political and commercial relationship characteristic factors were initially determined. On this basis, Harman single factor analysis was used to test the homology variance of the four factors. The results showed that the explanatory power of the four factors was roughly equal, the explanatory power of the latent variables was uniform, and there was no homologous variation. Meet the requirements of scale development.

| Potential variable | Observation variable | Factor |       |       |       | Communality |
|--------------------|----------------------|--------|-------|-------|-------|-------------|
|                    |                      | 1      | 2     | 3     | 4     |             |
| A1                 | a1                   | 0.882  | 0.086 | 0.055 | 0.047 | 0.791       |
|                    | a2                   | 0.907  | 0.073 | 0.006 | 0.164 | 0.854       |
|                    | a3                   | 0.931  | 0.110 | 0.008 | 0.107 | 0.891       |

|                                       |     |        |        |        |        |       |
|---------------------------------------|-----|--------|--------|--------|--------|-------|
| A2                                    | a4  | 0.161  | 0.854  | -0.088 | -0.066 | 0.767 |
|                                       | a5  | 0.048  | 0.925  | 0.098  | 0.075  | 0.873 |
|                                       | a6  | 0.060  | 0.911  | 0.113  | -0.099 | 0.856 |
| A3                                    | a7  | 0.037  | -0.004 | 0.902  | 0.040  | 0.817 |
|                                       | a8  | 0.003  | 0.081  | 0.907  | 0.082  | 0.836 |
|                                       | a9  | 0.027  | 0.038  | 0.862  | 0.011  | 0.745 |
| A4                                    | a10 | 0.099  | -0.025 | 0.058  | 0.933  | 0.884 |
|                                       | a11 | 0.169  | -0.056 | 0.057  | 0.916  | 0.874 |
| Characteristic root                   |     | 3.172  | 2.339  | 2.311  | 1.366  |       |
| Cumulative variance interpretation /% |     | 28.840 | 50.104 | 71.115 | 83.536 |       |

**Table 2:** Exploratory factor analysis results.

**Confirmatory factor analysis:** The main purpose of the confirmatory factor analysis in volume development is to verify whether the model settings are correct and whether the selected measurement indicators can truly and effectively reflect the latent variables.

This study uses a structural equation model to further validate the internal validity of a scale consisting of 11 test items and 4 characteristic factors.

The results of the confirmatory factor analysis are shown in Figure 2. The test criteria and index values for the degree of fit of the structural model to the data are given in Table 3.

It can be seen from Table 3 that each fitting index satisfies the requirements, indicating that the data fits well with the established scale and the model is simple; at the same time, the potential factors and the latent factors and observed variables can be found through Figure 2. The path coefficients between the two are greater than 0.5.

The observed variables can effectively reflect the causal relationship between the latent factors and the latent factors. Therefore, the correctness and rationality of the established scale are verified by mathematical methods. CFA examined the robustness of the structural relationship between the four factors and the eleven observations obtained by EFA.

Here, this study analyzes the factor structure of the four potential variables of state-business relation. The data in Figure 2 shows that the normalized path coefficients of the 11 observations on the four characteristic factors range from 0.75 to 0.96, indicating that the intensity of the interpretation of the observations by the characteristic factors is significant at the 0.001 significance level; The eleven observation items are explained by their respective characteristic factors with a variation ranging from 0.85 to 0.93, and the variance of the explained variance is more than 50%. Therefore, these four dimensions can better explain 11 observations.

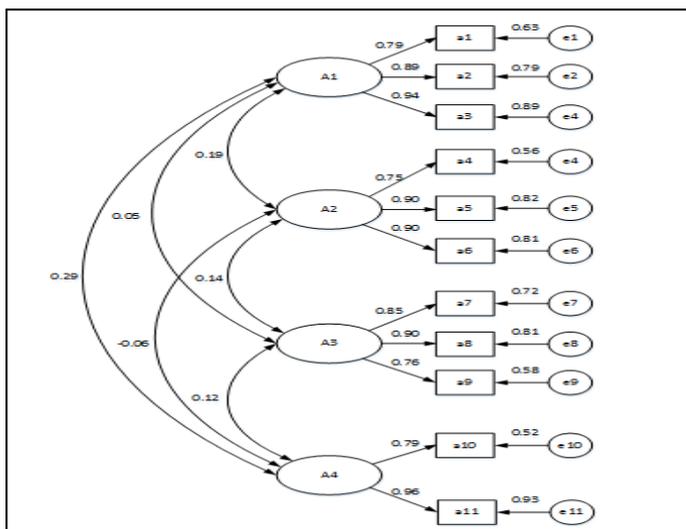


Figure 2: Standard path diagram of the 11-factor model of state-business relation in PPP mode.

| Statistic<br>al<br>test         | Absolute<br>fit index |           | Value-added fitness<br>index- |        |        |        | Simple fit index |        |
|---------------------------------|-----------------------|-----------|-------------------------------|--------|--------|--------|------------------|--------|
|                                 | X2                    | RMS<br>EA | NFI                           | IFI    | TLI    | CFI    | X2/df            | PNFI   |
| Inspe<br>ction<br>stand<br>ards | p > 0.05              | < 0.05    | > 0.90                        | > 0.90 | > 0.90 | > 0.90 | < 3              | > 0.50 |
| Indic<br>ator<br>score          | 0.286                 | 0.033     | 0.943                         | 0.994  | 0.991  | 0.994  | 1.12             | 0.651  |

Table 3: CFA structural model adaptation test of state-business relation under PPP mode.

### Internal consistency and stability evaluation

The overall reliability Cronbach's  $\alpha$  value of 109 observations in 11 observations is 0.746. The reliability values of the four characteristic factors and their corresponding observations are 0.906, 0.887, 0.873, and 0.862, respectively. Greater than 0.7, indicating that the survey data shows good internal consistency and has a good level of reliability. In addition to verifying the reliability level of the overall sample, the study also analyzed the reliability level of the randomly divided samples.

The results of the random half-samples were consistent with the overall sample results, and all the structures with four factors were obtained, indicating that the scale Internal consistency is good. Therefore, the 4-factor structural model obtained by EFA and CFA is credible. In addition, the combined reliability analysis of the overall sample shows that the combined reliability of the four characteristic factors are: 0.9074, 0.8883, 0.8762, 0.8708, and the index values are higher than 0.6, indicating that the intrinsic quality of the 4-factor structural model is ideal.

### Evaluation of polymerization validity and discriminant validity

From the EFA results, the factor load of each observation item is between 0.75 and 0.96 (see Figure 2), indicating that each observation item is suitable for measuring the corresponding characteristic factor. The path of the characteristic factor to the observation item in CFA analysis The coefficient indicates that the observation items measuring the same factor will fall on this factor, which indicates that the scale has good aggregation validity; using the CFA analysis results, it is checked whether the Average Variation Extraction (AVE) of each factor is greater than 0.5, after calculation AVE is 0.7666, 0.7275, 0.7034, 0.7729, respectively, both greater than 0.5, further indicating that the scale has good polymerization validity. For the discriminant validity, use Fornell and Larcker's analysis method [17], to compare whether the arithmetic square root of each factor AVE value is greater than the correlation coefficient between the factor and other factors. When the AVE square root is greater than other factor coefficients, it indicates that there is enough between the dimensions. The validity is different, otherwise the validity is not enough. The results of the correlation are shown in Table 4. The results show that the scale has good discriminant validity.

|    | A1   | A2    | A3   | A4   |
|----|------|-------|------|------|
| A1 | 0.88 |       |      |      |
| A2 | 0.19 | 0.85  |      |      |
| A3 | 0.05 | 0.14  | 0.84 |      |
| A4 | 0.29 | -0.06 | 0.12 | 0.88 |

Note: The square root of the factor AVE coefficient is inside the diagonal brackets.

Table 4: 4 factors correlation coefficient table of state-business relation.

### DISCUSSION AND CONCLUSION

Based on the essence of state-business relation, this study extracts four representative characteristics of state-business relation under the PPP model from the overall level of state-business relation, and based on the characteristics of state-business relation. The development produced 11 items for the scale test and 4 potential factors, and invited senior experts to evaluate the internal validity of the scale and collect the data into the questionnaire by collecting the developed scale into a questionnaire. Internal structure, internal consistency and stability, aggregate validity and discriminant validity were comprehensively evaluated. The results show that all aspects of the developed scale meet the requirements, with good validity and reliability. The four characteristics of state-business relation are not only complete and accurate, but also reflect the essence of state-business relation, and there are obvious differences between the four characteristics. The correlation also shows that

in the operation of state-business relation, the four of them interact and match each other.

Although the state-business relation scale in the PPP mode has a good reliability and validity through scientific and rational development process, this research still has some shortcomings: First, the development of the scale is a process of continuous revision, and future research should be Further verifying the validity of the scale in different contexts (e.g. different industry, region, corporate nature). Second, the state-business relation scale does not cover all state-business relation, such as the adaptability of state-business relation. Third, this study only developed the scale and did not pay attention to the antecedents and outcome variables of these state-business relation. Will different types of state-business relation have different causes? Are different characteristics leading to different organizational results? Future research can verify the relationship between the different characteristics of state-business relation and other outcome variables, such as the state-business relation of state-owned enterprises and the state-business relation of foreign-funded enterprises. In addition, certain relevant context variables, such as environmental uncertainty and economic development levels, may also influence the relationship between state-business relation and other outcome variables.

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