QUANTITATIVE ANALYSIS OF POLICY DOCUMENTS AND POLICY RECOMMENDATIONS FOR BEAUTIFUL AND LIVABLE AREAS BASED ON PMC INDEX -TAKE JIANGSU PROVINCE FOR EXAMPLE

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ABSTRACT

The Chinese government prioritizes the construction of beautiful and liveable areas, which requires policy support. By taking Jiangsu Province as an example, this paper analyzes the policies related to beautiful and livable areas, and calculates the PMC for each policy. Therefore, policies are proposed to promote beautiful and suitable living areas, including organizational management, public participation, and funding sources.

Introduction

Construction of cities of large, medium, and small in China has developed rapidly since the reform and opening up, and most of the cities have taken on a new look. Since 2012, China has attached great importance to promoting the transformation and high-quality development of urban construction with new development concepts, so as to meet the people's yearning for a better life in the new era. The construction of beautiful and livable cities and the renovation of old urban communities have become urgent problems to be solved in current urban construction[1-2].Consequently, the Chinese government and local governments are increasingly interested in building livable cities and renovating old urban communities.

In accordance with national policies, Jiangsu's government has released corresponding policies to support the renewal and upgrading of old districts, of which a number of achievements have been made. A Notice on Accelerating the Construction of Beautiful and Livable Cities was issued by Jiangsu Province's Leading Group for the Construction of Beautiful and Livable Cities in November 2020. As a result, beautiful and livable cities must be gradually and deeply promoted

by developing a system for building them, integrating and improving beautiful and livable areas, and jointly creating them. The concept of building a beautiful and livable city will be deeply embedded in people's minds by 2025, enabling the province to construct more beautiful and comfortable communities, towns, and counties, resulting in a number of beautiful and livable cities with Jiangsu regional characteristics and representing the development level of Jiangsu, China. The purpose of this study is to analyze the effectiveness of policy implementation and provide a basis for the formulation and improvement of relevant policies[3-6]. Using Jiangsu Province as an example, this study examines the main policies, conducts quantitative evaluation research, and formulates policy recommendations based on those findings.

1. Quantitative Analysis of Policy Documents of beautiful and livable Area Based on PMC Index

A number of policies have been introduced by the Chinese government to promote the transformation of old communities and the management of urban planning and construction. A major economic province, Jiangsu Province has achieved a series of results in recent years regarding high-quality development and the construction of a new Jiangsu province that is "strong, rich, and high". Under the guidance of central policies, a number of documents have been issued for urban planning and construction management. To provide a basis for policy development and improvement, a quantitative evaluation study is conducted on a selection of major policy documents.

1.1. Policy Selection of Beautiful and Livable Areas

The nine policies selected in this paper are shown in Table 1.

Table 1. Summary of 9 selected policies

Serial number	Name	Document number	Release date
1	Implementation Opinions of Jiangsu Provincial Committee of the Communist Party and Jiangsu Provincial People's Government on Further Strengthening the Management of Urban Planning and Construction	SU FA [2016] No.35	August 11, 2016
2	Guiding Opinions of the Provincial Department of Housing and Urban-Rural Development on Strengthening the Comprehensive Improvement of the Environment of Old Residential Areas and Promoting the Construction of Livable Demonstration Residential Areas	SU JIAN FANG GUAN [2018] No.175	April 26, 2018
3	Notice of the Provincial Department of Housing and Urban-Rural Development on Printing and Distributing *the Evaluation for the Construction of*	SU JIAN FANG GUAN [2019] No.417	June 19, 2018

	Livable Areas (Renovation of Old Residential Areas) in Jiangsu Province (Trial)		
4	Guiding Opinions of the General Office of the State Council on Comprehensively Promoting the Renovation of Old Urban Communities	GUO BAN FA [2020] No.23	July 10, 2020
5	Notice of the Ministry of Housing and Urban-Rural Development and Other Departments on Printing and Distributing the Action Plan for Creating Green Communities	Jiancheng [2020] No.68	July 22, 2020
6	Opinions of Jiangsu Provincial Committee of the Communist Party and Jiangsu Provincial People's Government on Promoting the Construction of Beautiful Jiangsu	SU FA [2020] No.15	August 12, 2020
7	Notice on Printing and Distributing Guiding Opinions on Accelerating the Construction of Beautiful and Livable Cities	SU YI JU [2020] No.1	November 24, 2020
8	Notice on Printing and Distributing *the Implementation Opinions on Comprehensively Promoting the Renovation of Old Urban Communities*	SU JIU GAI [2020] No.2	December 23, 2020
9	Technical Guide for Renovation of Old Residential Communities in Jiangsu (Creation of Livable Residential Areas)		April 23, 2021

1.2. Acknowledgment of Variables and Establishment of Multi-input-output Table

Using existing documents and text extraction methods, this paper integrates and modifies the settings of policy evaluation with reference to Zhang Yong'an, Qie Haituo, and other scholars, and sets a total of nine classical first-level variables. The secondary variable setting is adapted based on the classic secondary variables discussed by the above scholars and the research issues in this thesis, as well as the specific situation of Chinese policy. Variable X1 includes X1: 1 ~ X1: 6, with a total of 6 secondary variables. Variable X2 includes X2: 1 ~ X2: 4, a total of four secondary variables; Variable X3 includes X3: 1 ~ X3: 4, a total of four secondary variables; Variable X4 includes X4: 1 ~ X4: 5, with a total of five secondary variables. Variable X5 includes X5: 1 ~ X5: 4, a total of four secondary variables; Variable X6 includes X6: 1 ~ X6: 6, with a total of 6 secondary variables. Variable X7 includes X7: 1 ~ X7: 5, with a total of five secondary variables. Variable X8 includes X8: 1 ~ X8: 4, a total of four secondary variables; Variable X9 includes X9: 1 ~ X9: 2, a total of two secondary variables; Variable X10 has no secondary variable. As shown in Table 2.

Table 2. Policy Variable Settings from 2016 to 2021

Primary variable	Number	Secondary variable	Number	Secondary variable	Source or basis
X_1 Nature of Policy	$X_{1:1}$	Predictions	$X_{1:2}$	Supervision	Adapted from *Quantitative Evaluation Innovation Policies of the State Council-Based on the PMC Index Model*
	$X_{1:3}$	Recommendations	$X_{1:4}$	Describe	
	$X_{1:5}$	Guide	$X_{1:6}$	Others	
X_2 policy duration	$X_{2:1}$	Long-term	$X_{2:2}$	Mid-term	Adapted from *Quantitative Evaluation Innovation Policies of the State Council-Based on the PMC Index Model*
	$X_{2:3}$	Short-term	$X_{2:4}$	During the year	
X_3 Incentives	$X_{3:1}$	Tax incentives	$X_{3:2}$	Subsidy incentive	Adapted from *Quantitative Evaluation Innovation Policies of the State Council-Based on the PMC Index Model*
	$X_{3:3}$	Laws and regulations	$X_{3:4}$	Others	
X_4 policy receptor	$X_{4:1}$	Provincial	$X_{4:2}$	Ministries	Adapted from *Quantitative Evaluation Innovation Policies of the State Council-Based on the PMC Index Model*
	$X_{4:3}$	Municipal	$X_{4:4}$	Direct subsidiaries	
	$X_{4:5}$	Others			
X_5 Policy Subject	$X_{5:1}$	The State Council	$X_{5:2}$	Ministry of Housing and Urban-Rural Development	Adapted from *Quantitative Evaluation Innovation Policies of the State Council-Based on the PMC Index Model*
	$X_{5:3}$	Provincial and municipal departments and bureaus	$X_{5:4}$	Others	
X_6 Policy areas	$X_{6:1}$	Economy	$X_{6:2}$	Society	Adapted from *Quantitative Evaluation Innovation Policies of the State Council-Based on the PMC Index Model*
	$X_{6:3}$	Technology	$X_{6:4}$	Politics	
	$X_{6:5}$	Environment	$X_{6:6}$	Others	
X_7 Policy priorities	$X_{7:1}$	Construction demonstration project	$X_{7:2}$	Full-scale application	Adapted from *Quantitative Evaluation Innovation Policies of the State Council-Based on the PMC Index Model*
	$X_{7:3}$	Strengthen supervision and regulation	$X_{7:4}$	Urban construction	
	$X_{7:5}$	Others			
X_8 Policy Evaluation	$X_{8:1}$	Adequate basis	$X_{8:2}$	Clear objectives	Adapted from *Quantitative Evaluation Innovation Policies of the State Council-Based on the PMC Index Model*
	$X_{8:3}$	Scientific solutions	$X_{8:4}$	Practical planning	
X_9 Policy	$X_{9:1}$	Macro view	$X_{9:2}$	Micro View	Adapted from *Quantitative Evaluation of the Impact of Financial Policy Combination to Enterprise Technology Innovation - Based on the*

Perspective					*PM C-Index Model*
X_{10} Policy transparency					Adapted from *Quantitative Evaluation of the Impact of Financial Policy Combination to Enterprise Technology Innovation - Based on the PM C-Index Model*

A document extraction method was used to identify primary and secondary variables, and each variable was scored according to the criteria shown in Table 3.

Table 3. Secondary variable scoring criteria

	Variable	Scoring criteria
X_1	$(X_{1:1})$ Predictions	Determine if the policy to be evaluated is predictive, 1 if it is, 0 if it is not
	$(X_{1:2})$ Regulation	Determine if the policy to be evaluated involves regulation, 1 if it does, 0 if it doesn't
	$(X_{1:3})$ Recommendation	Determine if the policy to be evaluated contains recommendations, 1 if it does, 0 if it doesn't
	$(X_{1:4})$ Description	Determine if the policy to be evaluated is descriptive, 1 if it is, 0 if it is not
	$(X_{1:5})$ Guidance	Determine whether the policy to be evaluated features guidance, 1 if it does, 0 if it doesn't
	$(X_{1:6})$ Others	Determine if the policy to be evaluated has other attributes, 1 if it does, 0 if it doesn't
X_2	$(X_{2:1})$ Long-term	Determine if the policy to be evaluated involves long-term content (more than 10 years), 1 if it does, 0 if it doesn't
	$(X_{2:2})$ Mid-term	Determine the policy to be evaluated involves medium-term content (5 ~ 10 years), 1 if it does, 0 if it doesn't
	$(X_{2:3})$ Short-term	Determine if the policy to be evaluated involves short-term content (1 ~ 5 years), 1 if it does, 0 if it doesn't
	$(X_{2:4})$ During the year	Determine if the policy to be evaluated covers the content of this year, 1 if it does, 0 if it doesn't
X_3	$(X_{3:1})$ Tax incentives	Determine to the policy to be evaluated involves talent incentive content, 1 if it does, 0 if it doesn't
	$(X_{3:2})$ Subsidy incentives	Determine if the policy to be evaluated involves subsidy incentives, 1 if it does, 0 if it doesn't
	$(X_{3:3})$ Laws and regulations	Determine if the policy to be evaluated involves relevant laws and regulations, 1 if it does, 0 if it doesn't
	$(X_{3:4})$ Others	Determine if the policy to be evaluated involves other important contents, 1 if it does, 0 if it doesn't
X_4	$(X_{4:1})$ Provincial	Determine if the policy receptor to be evaluated includes the province, 1 if it does, 0 if it doesn't

	Variable	Scoring criteria
	($X_{4:2}$) Ministries	Determine if the policy receptor to be evaluated includes the ministries, 1 if it does, 0 if it doesn't
	($X_{4:3}$) Municipal	Determine if the policy receptor to be evaluated includes the municipals, 1 if it does, 0 if it doesn't
	($X_{4:4}$) Direct subsidiaries	Determine if the policy receptor to be evaluated includes the direct subsidiaries, 1 if it does, 0 if it doesn't
	($X_{4:5}$) Others	Determine if the policy subject to be evaluated includes others, 1 if it does, 0 if it doesn't
X_5	($X_{5:1}$) The State Council	Determine if the policy subject to be evaluated includes the State Council, 1 if it does, 0 if it doesn't
	($X_{5:2}$) Ministry of Housing and Urban-Rural Development	Determine if the policy subject to be evaluated includes the Ministry of Housing and Urban-Rural Development, 1 if it does, 0 if it doesn't
	($X_{5:3}$) Provincial and municipal departments and bureaus	Determine if the policy subject to be evaluated includes provincial and municipal departments and bureaus, 1 if it does, 0 if it doesn't
	($X_{5:4}$) Others	Determine if the policy subject to be evaluated includes others, 1 if it does, 0 if it doesn't
X_6	($X_{6:1}$) Economy	Determine if the policy to be evaluated involves economic content, 1 if it does, 0 if it doesn't
	($X_{6:2}$) Society	Determine if the policy to be evaluated involves social content, 1 if it does, 0 if it doesn't
	($X_{6:3}$) Technology	Determine if the policy to be evaluated involves technical content, 1 if it does, 0 if it doesn't
	($X_{6:4}$) Politics	Determine if the policy to be evaluated involves politics, 1 if it does, 0 if it doesn't
	($X_{6:5}$) Environment	Determine if the policy to be evaluated involves environmental content, 1 if it does, 0 if it doesn't
	($X_{6:6}$) Others	Determine the if policy to be evaluated involves other contents, 1 if it does, 0 if it doesn't
X_7	($X_{7:1}$) Construction of demonstration projects	Determine if the policy to be evaluated attaches importance to the construction of demonstration projects, 1 if it does, 0 if it doesn't
	($X_{7:2}$) Full-scale application	Determine if the policy to be evaluated attaches importance to full-scale application, 1 if it does, 0 if it doesn't
	($X_{7:3}$) Strengthening supervision and regulation	Determine if the policy to be evaluated attaches importance to strengthening supervision and regulation, 1 if it does, 0 if it doesn't
	($X_{7:4}$) Urban construction	Determine if the policy to be evaluated attaches importance to urban construction, 1 if it does, 0 if it doesn't
	($X_{7:5}$) Others	Determine if there are other priorities in the policy to be evaluated, 1 if there is, 0 if there isn't
X_8	($X_{8:1}$) Adequate basis	Determine if the policy basis to be evaluated is adequate, 1 if it is, 0 if it's not
	($X_{8:2}$) Clear objectives	Determine if the policy objectives to be evaluated are clear, 1 if it is, 0 if it's not
	($X_{8:3}$) Scientific methods	Determine if the policy methods to be evaluated is scientific, 1 if it is 1, 0 if it's not
	($X_{8:4}$) Practical planning	Determine if the policy plan to be evaluated is practical, 1 if it is 1, 0 if it's not

	Variable	Scoring criteria
X_9	($X_{9:1}$) Macro view	Determine if the policy to be evaluated involves macro policies, 1 if it does, 0 if it doesn't
	($X_{9:2}$) Micro view	Determine if the policy to be evaluated involves micro policies, 1 if it does, 0 if it doesn't
X_{10}		Determine if the policy to be evaluated is transparency, 1 if it is, 0 if it's not

1.3. PMC Index Calculation

1.3.1. PMC Index Calculation Methods

Using Mario Arturo Ruiz Estrada's method, the PMC index is calculated in four steps: first, two levels of variables are placed in Table 2; second, secondary variable values are calculated. As shown in Equation (1)(2), where the secondary variables obey the [0,1] distribution. The value of a secondary variable in a particular policy combination can be either 0 or 1, whereas the value is 1 when the corresponding secondary variable information appears in the policy document and 0 when the corresponding secondary variable information does not appear in the policy document. The primary indicator score of this policy mix is the sum of the secondary variable scores divided by the number of secondary variables, and this value is strictly between [0,1]; third, the value of each primary indicator of the policy to be evaluated is calculated as shown in Equation (3); fourth, the PMC index is calculated by summing the values of each primary indicator of the policy to be evaluated according to Equation (4)[7-16].

$$X \sim N[0,1] \quad (1)$$

$$X = \{XR : [0,1]\} \quad (2)$$

$$Xt \left(\sum_{j=1}^{n} \frac{X_{tj}}{T(X_{tj})} \right) \quad (3)$$

T = 1, 2, 3, 4, 5, 6, 7, 8, 9 T = and variables, J = secondary variables

$$PMC = \left[X_1 \left(\sum_{i=1}^{6} \frac{X_{1i}}{6} \right) + X_2 \left(\sum_{k=1}^{4} \frac{X_{2k}}{4} \right) + X_3 \left(\sum_{l=1}^{4} \frac{X_{3l}}{4} \right) + X_4 \left(\sum_{m=1}^{5} \frac{X_{4m}}{5} \right) \right.$$

$$+ X_5 \left(\sum_{n=1}^{4} \frac{X_{5n}}{4} \right) + X_6 \left(\sum_{o=1}^{6} \frac{X_{6o}}{6} \right) + X_7 \left(\sum_{p=1}^{5} \frac{X_{7p}}{5} \right) + X_8 \left(\sum_{q=1}^{4} \frac{X_{8q}}{4} \right)$$

$$\left. + X_9 \left(\sum_{r=1}^{2} \frac{X_{9r}}{2} \right) + X_{10} \right]$$

(4)

The policies were evaluated based on the results of the PMC index calculation, and the evaluation criteria are shown in Table 4.

Table 4. Policy scoring criteria

Score	10 ~ 9	8.99 ~ 7	6.99 ~ 5	4.99 ~ 0
Evaluation	Perfect	Excellent	Acceptable	Undesirable

1.3.2. Calculation and evaluation of PMC index of policy mix to be evaluated

The input-output table of the nine policy mix was generated based on the PMC index calculation method and document extraction method, as shown in Table 5. Subsequently, the PMC indexes of each innovation policy were calculated and summarized in Table 6 and evaluated according to Table 4.

Table 5. Policy mix input and output

X_1							X_2				
	$X_{1:1}$	$X_{1:2}$	$X_{1:3}$	$X_{1:4}$	$X_{1:5}$	$X_{1:6}$		$X_{2:1}$	$X_{2:2}$	$X_{2:3}$	$X_{2:4}$
P_1	1	1	1	1	1	1		1	1	1	1
P_2	0	1	1	1	1	1		0	0	0	1
P_3	0	0	1	1	1	1		0	0	1	1

P_4	1	1	1	1	1	1		0	0	1	1
P_5	0	1	0	1	1	1		0	0	1	1
P_6	1	1	1	0	1	1		1	1	1	1
P_7	0	1	1	1	1	0		1	1	1	1
P_8	1	1	1	1	1	1		0	0	1	1
P_9	0	0	1	1	1	1		0	0	1	1

X_3						X_4				
	$X_{3:1}$	$X_{3:2}$	$X_{3:3}$	$X_{3:4}$			$X_{4:1}$	$X_{4:2}$	$X_{4:3}$	$X_{4:4}$	$X_{4:5}$
P_1	0	0	1	1			1	1	1	1	1
P_2	0	1	1	1			0	0	1	1	1
P_3	0	1	1	1			0	0	0	1	1
P_4	1	1	1	1			1	1	1	1	1
P_5	0	0	1	1			1	1	1	1	1
P_6	0	0	1	0			0	1	1	1	1
P_7	0	1	1	0			0	0	1	1	1
P_8	1	1	1	1			0	0	1	1	1
P_9	0	0	1	1			0	0	1	1	1

X_5					X_6					
	$X_{5:1}$	$X_{5:2}$	$X_{5:3}$	$X_{5:4}$		$X_{6:1}$	$X_{6:2}$	$X_{6:3}$	$X_{6:4}$	$X_{6:5}$	$X_{6:6}$
P_1	0	0	1	0		1	1	1	1	1	1
P_2	0	0	1	0		0	1	1	1	1	1
P_3	0	0	1	0		0	1	1	0	1	1
P_4	1	0	0	0		1	1	1	1	1	1
P_5	0	1	0	0		1	1	1	1	1	1
P_6	0	0	1	0		1	1	1	1	1	1
P_7	0	0	1	0		1	1	1	1	1	1
P_8	0	0	1	0		1	1	1	1	1	1
P_9	0	0	1	0		0	1	1	1	1	1

X_7								X_8			
	$X_{7:1}$	$X_{7:2}$	$X_{7:3}$	$X_{7:4}$	$X_{7:5}$			$X_{8:1}$	$X_{8:2}$	$X_{8:3}$	$X_{8:4}$
P_1	1	1	1	1	1			1	1	1	1
P_2	1	1	1	1	1			1	1	1	1
P_3	1	1	0	1	1			1	1	1	1
P_4	1	1	1	1	1			1	1	1	1
P_5	1	1	1	1	1			1	1	1	1
P_6	1	1	1	1	1			1	1	1	1
P_7	1	1	1	1	0			1	1	1	1
P_8	1	0	1	1	1			1	1	1	1
P_9	1	0	0	1	1			1	1	1	1
X_9									X_{10}		
	$X_{9:1}$	$X_{9:2}$									
P_1	1	1							1		
P_2	0	1							1		
P_3	0	1							1		
P_4	1	1							1		
P_5	1	1							1		
P_6	1	1							1		
P_7	1	1							1		
P_8	1	1							1		
P_9	0	1							1		

Table 6. PMC index of each policy

	P_1	P_2	P_3	P_4	P_5	P_6	P_7	P_8	P_9	Average value
(X_1) Nature of policy	1.000	0.833	0.667	1.000	0.667	0.833	0.667	1.000	0.667	0.815
(X_2) Policy duration	1.000	0.250	0.500	0.500	0.500	1.000	1.000	0.500	0.500	0.639

(X_3) Incentives	0.500	0.750	0.750	1.000	0.500	0.250	0.500	1.000	0.500	0.639
(X_4) Policy receptor	1.000	0.600	0.400	1.000	1.000	0.800	0.600	0.600	0.600	0.733
(X_5) Policy subjects	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
(X_6) Policy areas	1.000	0.833	0.667	1.000	1.000	1.000	1.000	1.000	0.833	0.926
(X_7) Policy priorities	1.000	1.000	0.800	1.000	1.000	1.000	0.800	0.800	0.600	0.889
(X_8) Policy evaluation	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
(X_9) Policy perspective	1.000	0.500	0.500	1.000	1.000	1.000	1.000	1.000	0.500	0.833
(X_{10}) Policy transparency	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
PMC Index	8.750	7.017	6.533	8.750	7.917	8.133	7.817	8.150	6.450	7.72
Ranking	1	7	8	1	5	4	6	3	9	-

Policies				PMC Index				Grade
P_1				8.750				**Excellent**
P_2				7.017				**Excellent**
P_3				6.533				**Acceptable**
P_4				8.750				**Excellent**
P_5				7.917				**Excellent**
P_6				8.133				**Excellent**
P_7				7.817				**Excellent**
P_8				8.150				**Excellent**
P_9				6.450				**Acceptable**

1.4 Construction PMC Surface Drafting and Analysis

1.4.1. PMC Surface Construction Method

A PMC surface is constructed for more visualization of the results of the PMC index As there were 10 primary variables, it is impossible to perform matrix transformation on them, thus the 10 primary variables were processed twice and the variable X10 was removed, the reason being that this variable indicates policy transparency, while the nine policy mixes in this paper are all accessible and do not differ. Build a 3*3 matrix, and see equation (5) for PMC surface

calculation.

$$PMC \text{ surface} = \begin{pmatrix} X_1 & X_2 & X_3 \\ X_4 & X_5 & X_6 \\ X_7 & X_8 & X_9 \end{pmatrix} \quad (5)$$

1.4.2. PMC Surface Analysis

In accordance with the above process, the PMC indexes of each policy mix are calculated, and for comparison, the average values of each level of indicators X1 to X10 are calculated and the policy mix PMC surfaces are charted.

(1) Policy P_1 analysis

The PMC index of Policy P_1 is 8.750, ranking first with an excellent grade. Among them, only incentive X_3 is slightly below average. If policy improvements are to be made, additional incentives could be considered. (See Figure 1)
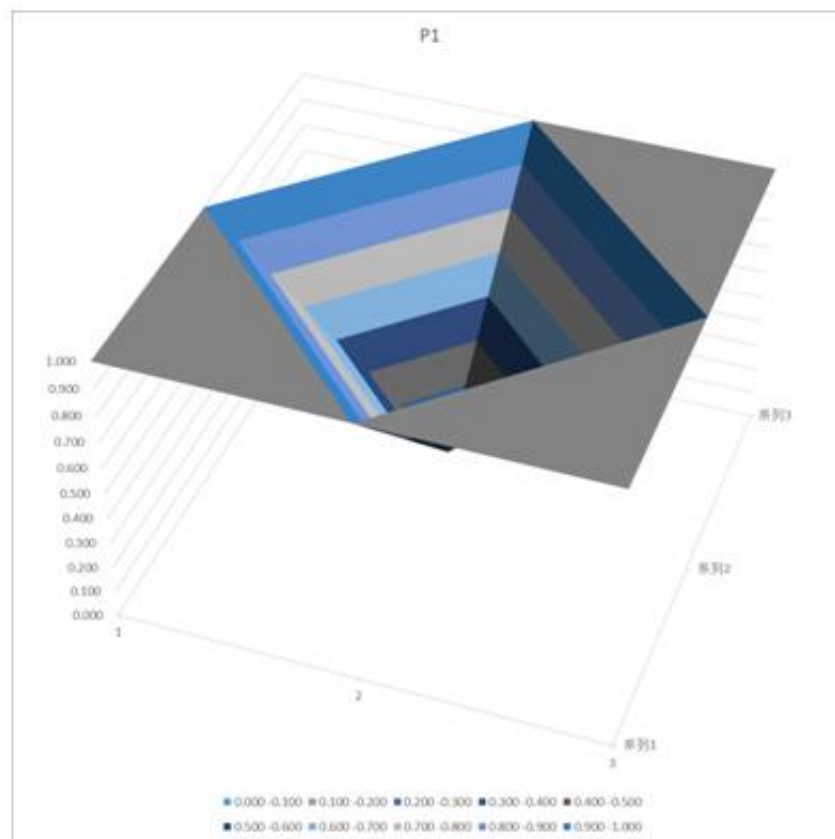
Figure 1. PMC Surface of Policy P1

(2) Policy P2 analysis

Policy P2 has a PMC index of 7.017, ranking seventh with an excellent grade. Among them, policy duration X2, policy receptor X4, policy area X6 and policy perspective X9 are all below average. If improvements are to be made to this policy, these four areas could be considered. (See Figure 2)
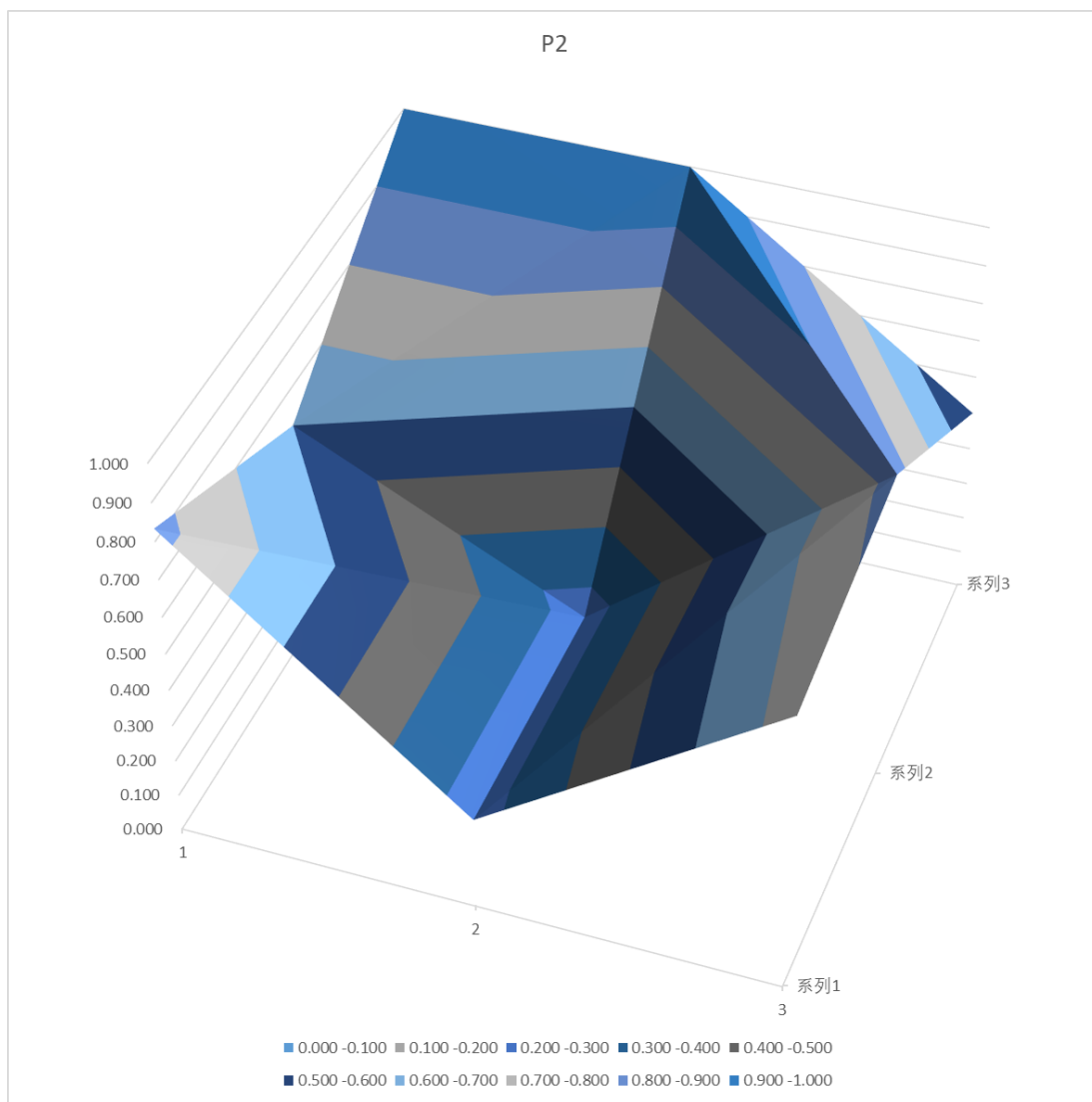
Figure 2. PMC Surface of Policy P2

(3) Policy P_3 analysis

Policy P_3 has a PMC index of 6.533, with a grade of acceptable, ranking eighth. Among them,

the scores are below average except for incentives X_3, policy subjects X_5, policy evaluation X_8, and policy transparency X_{10}. This policy is mainly used as an evaluation system, which covers a narrow scope, so the score is low. (See Figure 3)
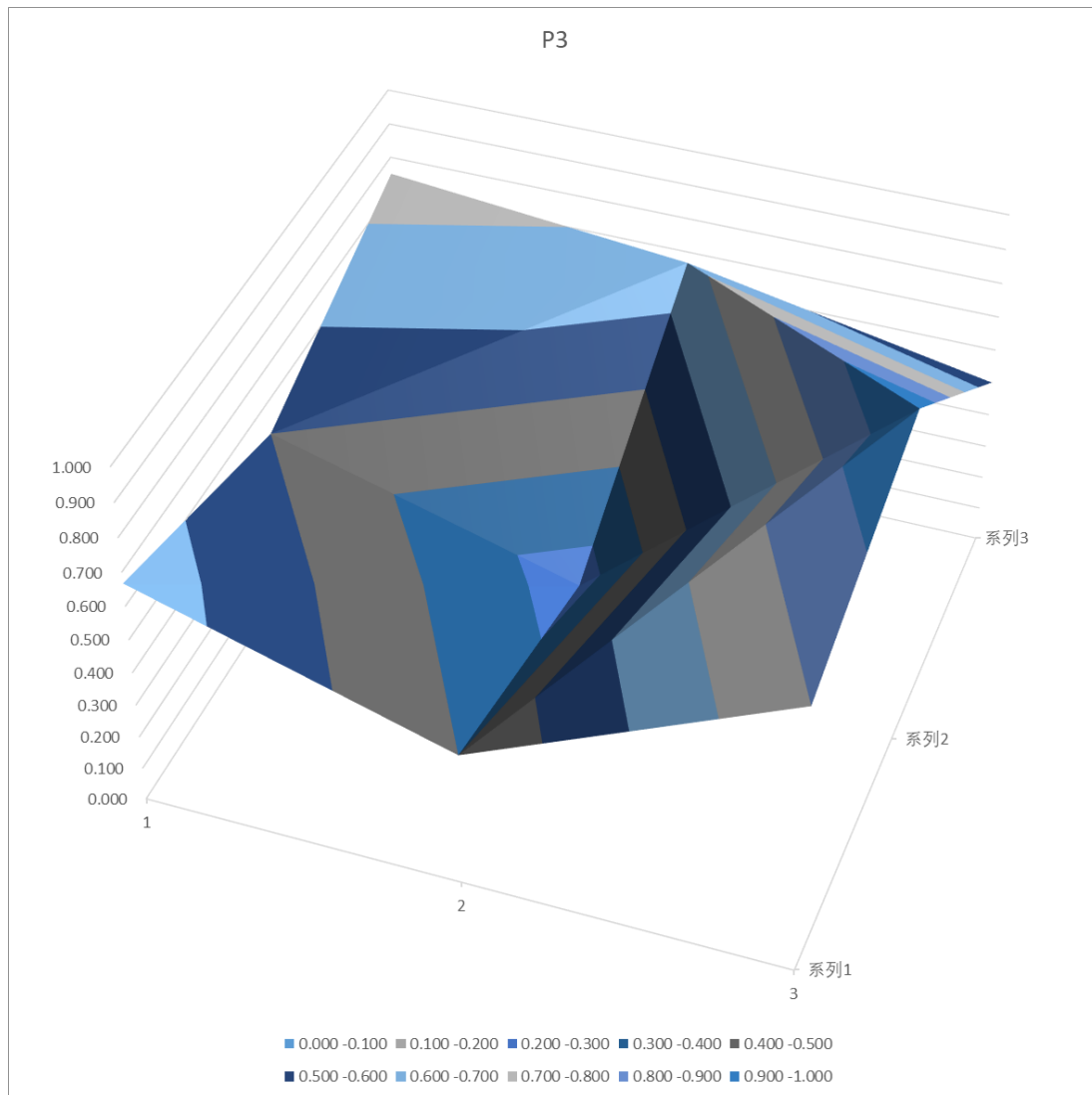
Figure 3. PMC Surface of Policy P3

(4) Policy P_4 analysis

Policy P_4 has a PMC index of 8.750 and a grade of excellent, tied for first place with Policy P_1. Among them, only the policy duration X_2 is slightly below average. If policy improvements are to be made, then this is an area to consider. (See Figure 4)
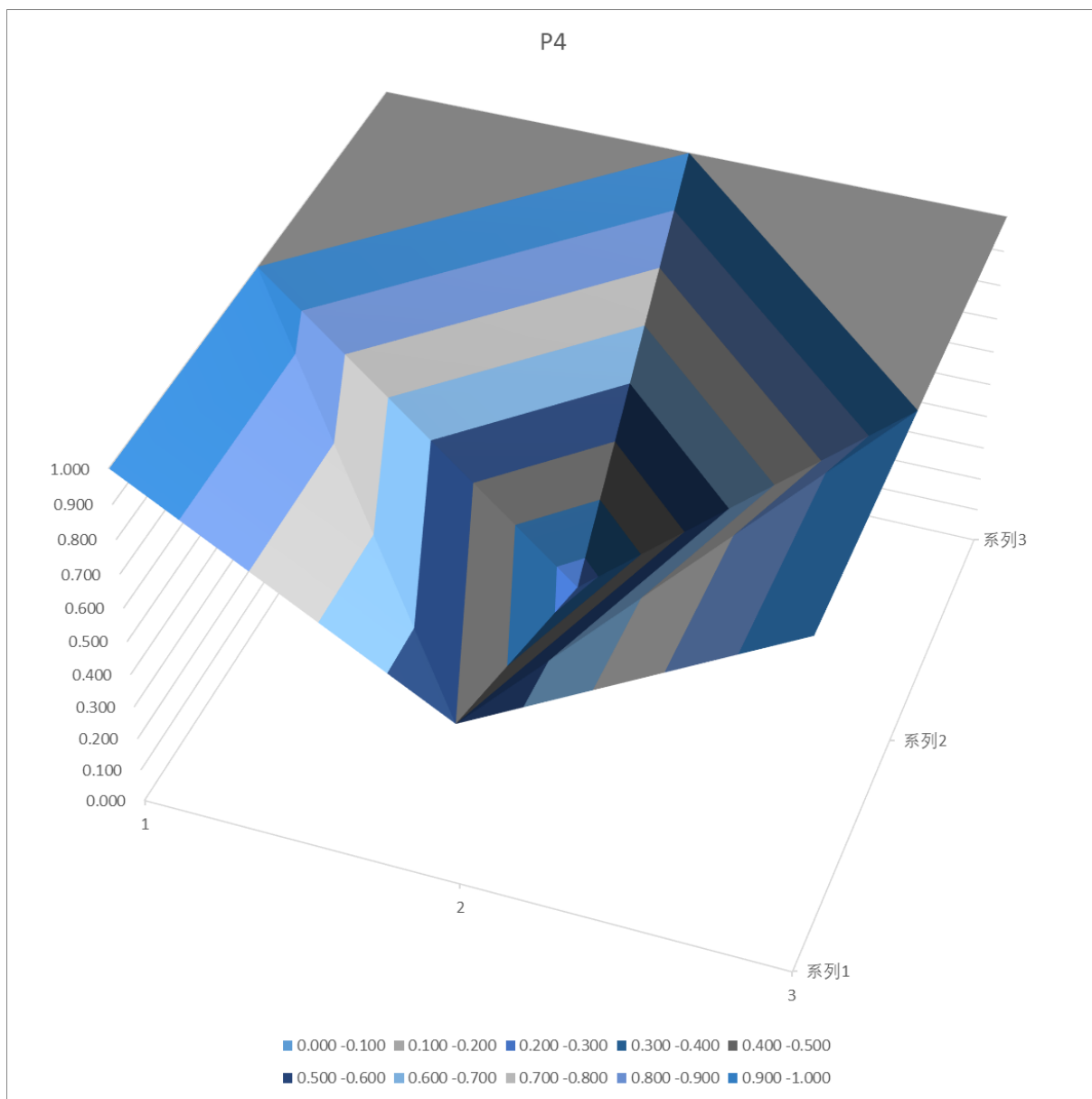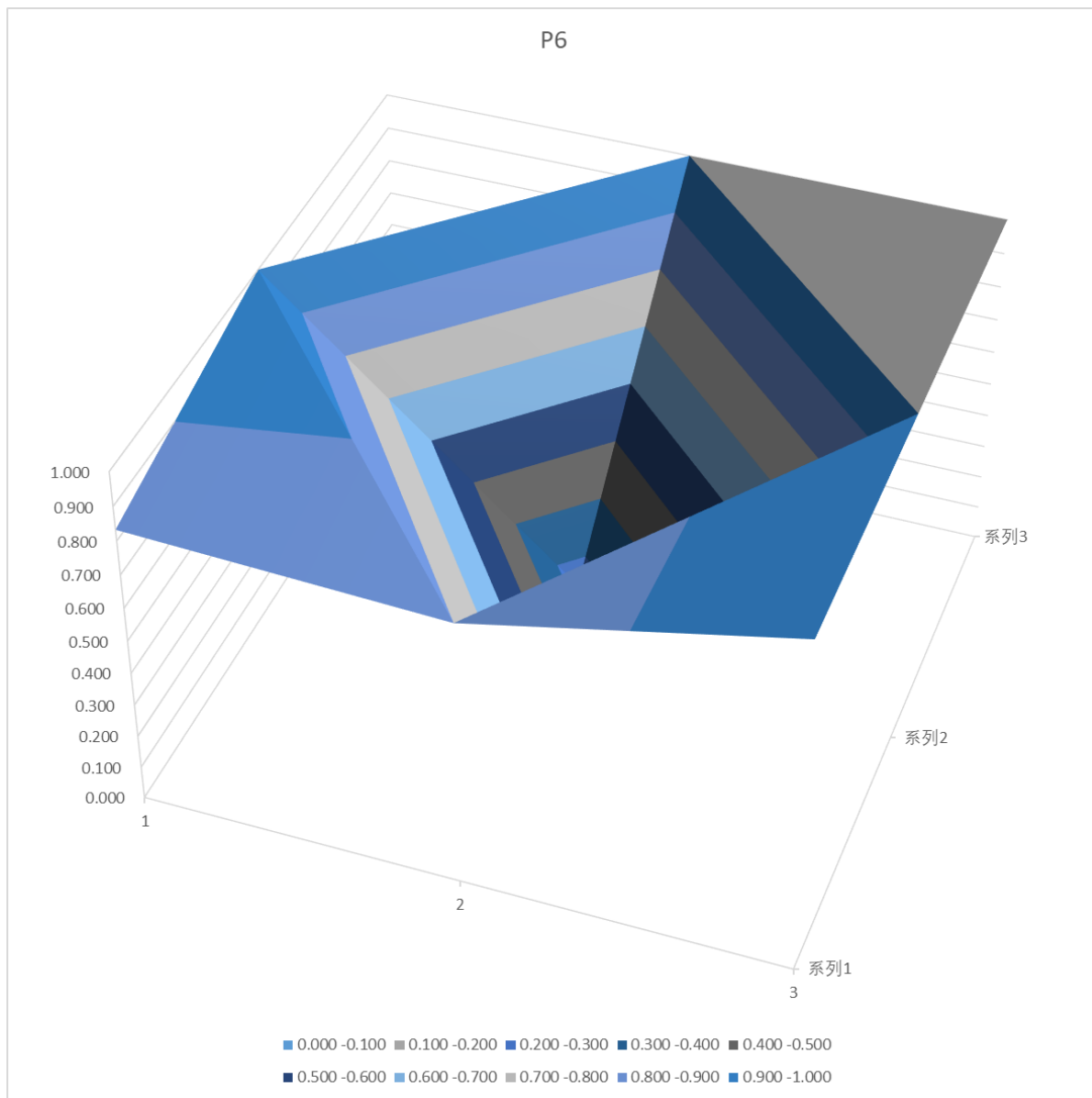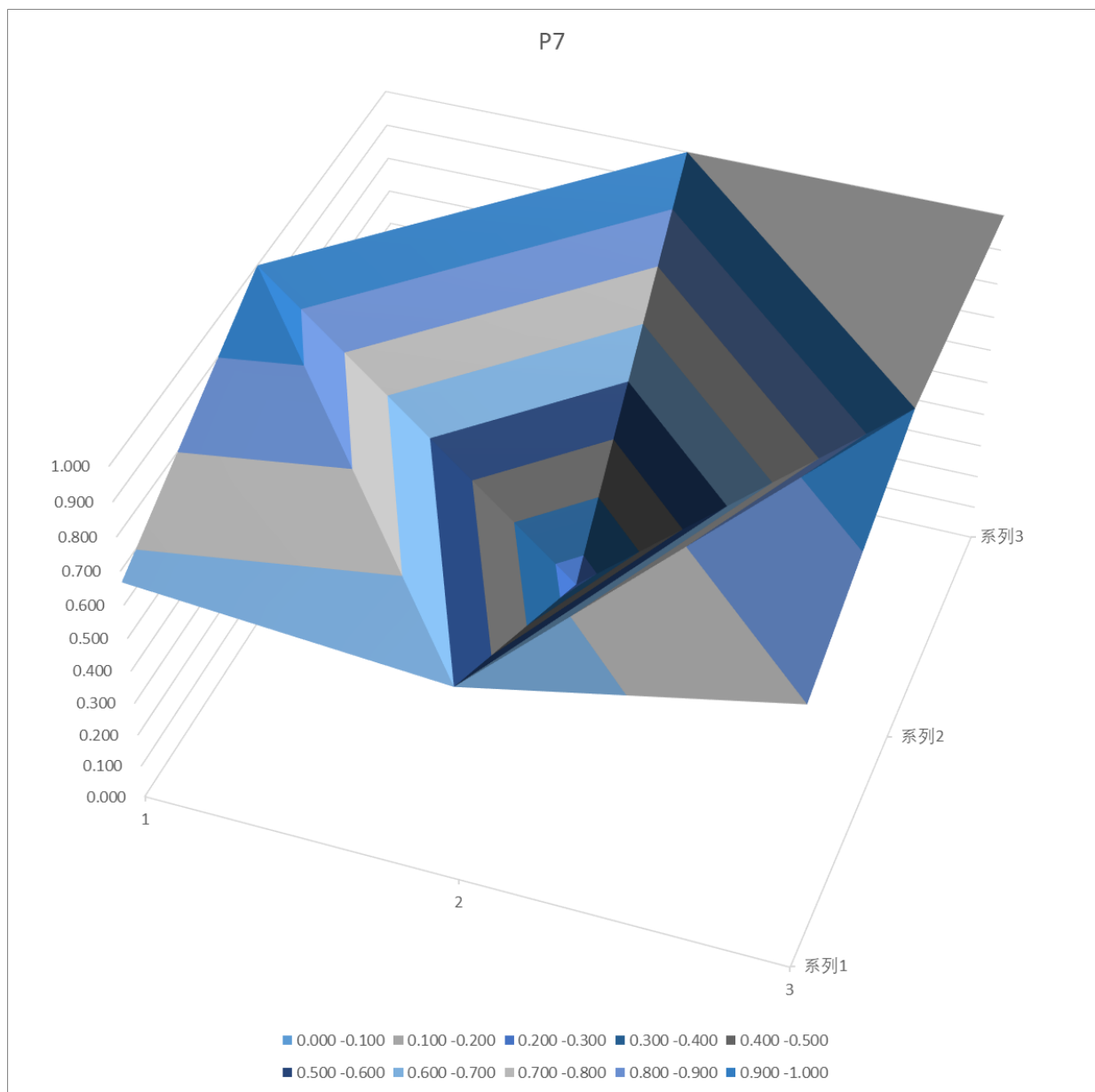
Figure 4. PMC Surface of Policy P4

(5) Policy P_5 analysis

Policy P_5 has a PMC index of 7.917, with an excellent grade, ranking fifth. Among them, policy nature X_1, policy duration X_2 and incentive X_3 are all below average. If policy improvements are to made, then this is an area to consider. (See Figure 5)
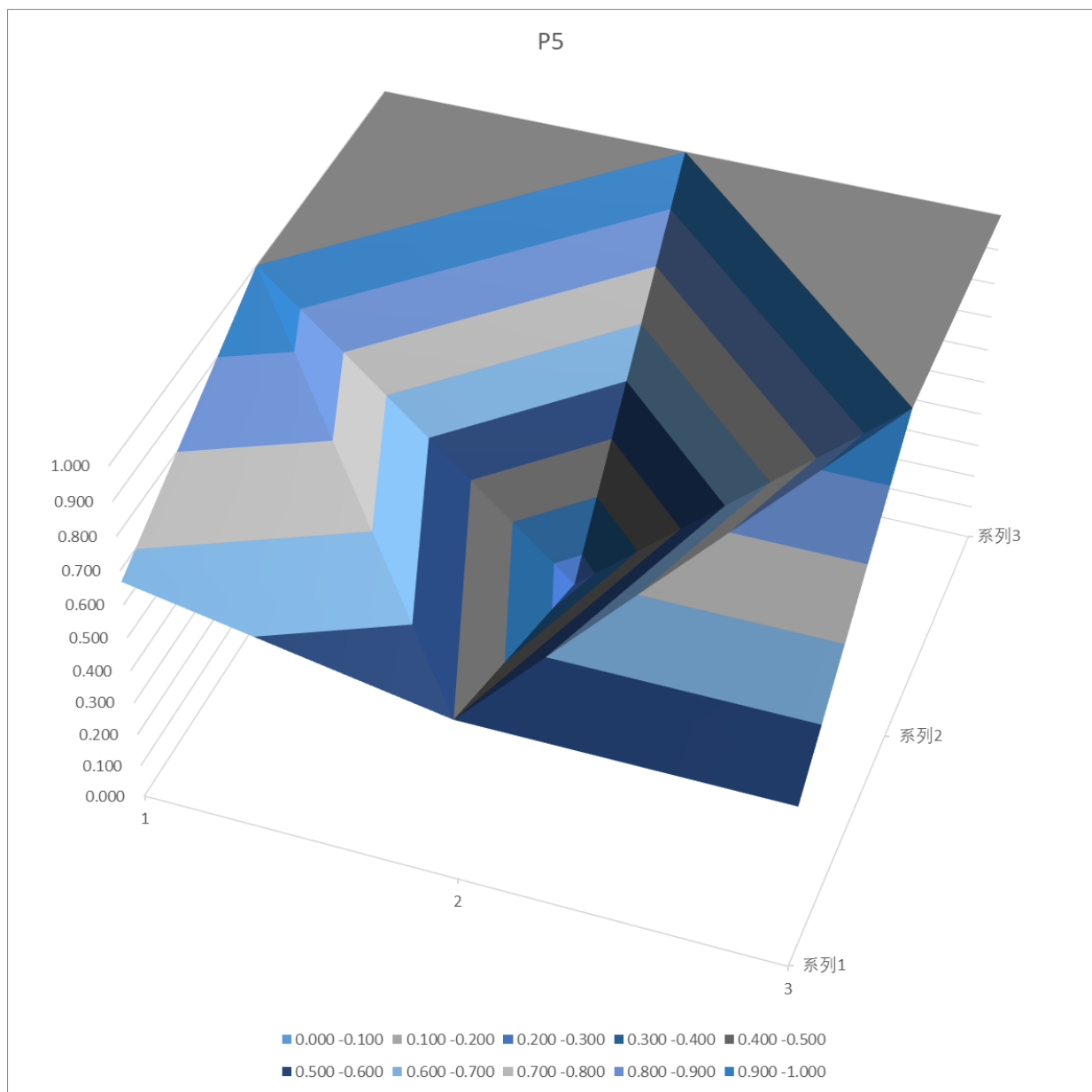
Figure 5. PMC Surface of Policy P5

(6) Policy P_6 analysis

Policy P_6 has a PMC index of 8.133, with an excellent grade, ranking fourth. Among them, only incentive X_3 is below average. If policy improvements are to made, then this is an area to consider. (See Figure 6)

Figure 6. PMC Surface of Policy P6

(7) Policy P_7 analysis

Policy P_7 has a PMC index of 7.817, with an excellent grade, ranking sixth. Among them, the nature of policy X_1, incentive X_3, policy subject X_5 and policy priorities X_7 are all below average. If policy improvements are to made, then this is an area to consider. (See Figure 7)

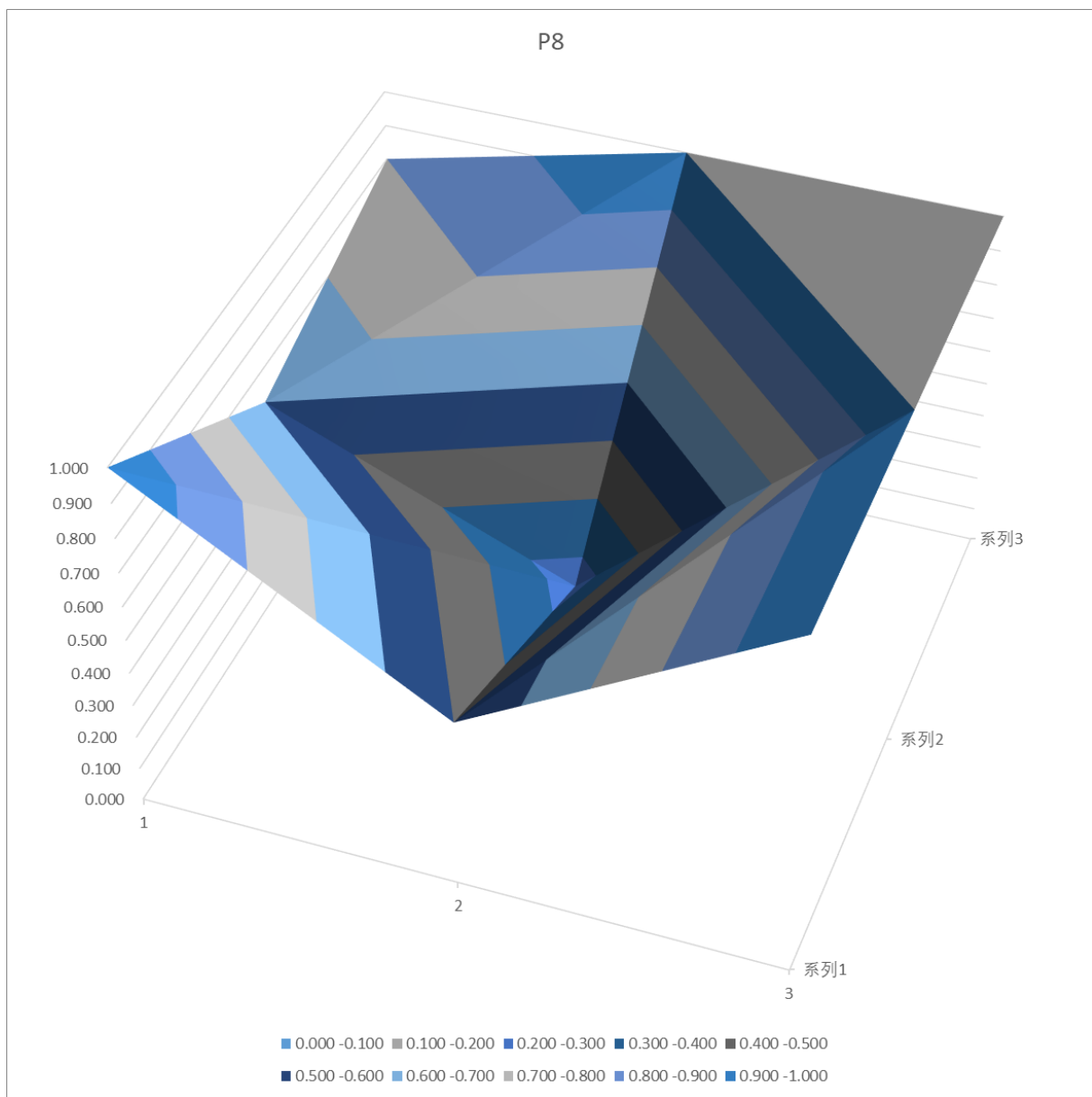**Figure 7. PMC Surface of Policy P7**

(8) Policy P_8 analysis

Policy P_8 has a PMC index of 8.150, with an excellent grade, ranking third. Among them, policy duration X_2, policy receptor X_4 and policy priorities X_7 are slightly below average. If policy improvements are to made, then this is an area to consider. (See Figure 8)

Figure 8. PMC Surface of Policy P8

(9) Policy P$_9$ analysis

Policy P$_9$ has a PMC index of 6.450, with an acceptable grade, ranking ninth. Among them, the scores are below average except for policy subject X$_5$, policy evaluation X$_8$, policy perspective X$_9$, and policy transparency X$_{10}$. The policy is mainly about specific implementation measures, which are very detailed in terms of practical operation and thus narrow in scope, thus resulting in a low score. (See Figure 9)
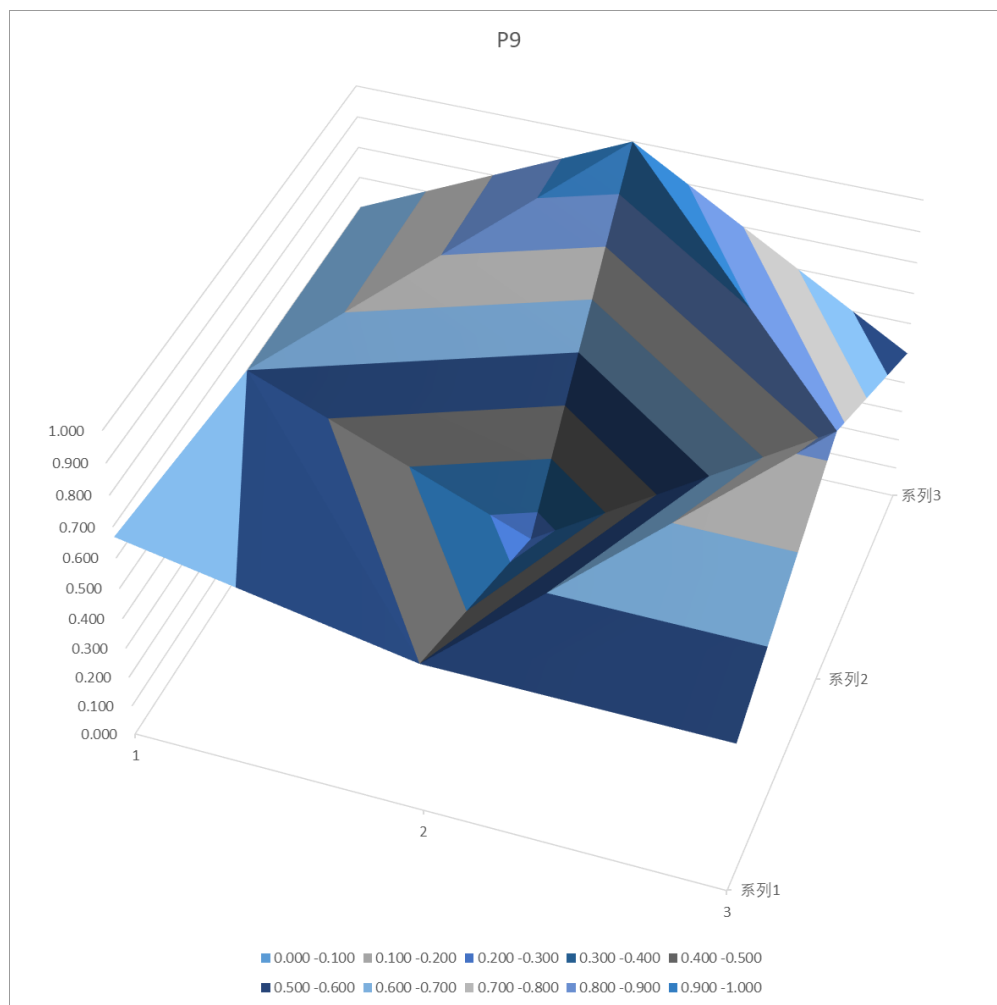
Figure 9. PMC Surface of Policy P9

2. Policy recommendations

The following policy recommendations are provided in order to promote the use of the evaluation criteria for beautiful and livable areas.

2.1. Establish a full-time organization and management institution to strengthen policy propaganda and guidance

The systematic organization and management organization is an effective carrier to ensure the promotion of beautiful and livable areas in Jiangsu Province. Thus, in pushing forward the work of promoting beautiful and livable areas in Jiangsu Province, an effective dedicated organization and management structure for the promotion of beautiful and livable areas in Jiangsu Province shall be established according to the tasks and the actual situation. Generally, a leading group

shall be established in each city (county or district), headed by a competent government leader, with members of the leading group from the main leading units of the government departments and local governments involved. The leading group with offices set up in each local housing administrative department. The establishment of a full-time organization and management structure provides organizational support for the promotion of beautiful and livable areas. Meanwhile, local governments at all levels shall strengthen the policy propaganda of the promotion of beautiful and livable areas, publicize the benefits as well as guide the residents to cooperate with the renewal and upgrading work via various means, so as to create a good social awareness for the promotion of beautiful and livable areas in Jiangsu Province.

2.2. Establish effective public participation mechanisms to reduce the negative impact

The public is the user and ultimate beneficiary of the results of the promotion of beautiful and livable areas in Jiangsu Province. Additionally, the public has a huge influence on the implementation of the promotion of beautiful and livable areas, which is crucial for increasing their effectiveness. Consequently, the authorities shall establish effective public participation mechanisms for the promotion of beautiful and livable areas, involving the public in the entire process of decision-making, planning, construction and long-term management, in which public opinions will be sought. Through effective public participation, the promotion of beautiful and livable areas will have a less negative impact, ensuring that the renewal of the promotion of beautiful and livable areas will be carried out smoothly and efficiently.

2.3. Promote the use of PPP, government purchase services and other models

As a public welfare project, promoting beautiful and livable areas should primarily be borne by the government. As China's economy enters a new normal, the government faces certain pressures to increase public investment, attracting social capital can alleviate the financial pressure on public investment, whereas the government pays the appropriate fees and provides reasonable returns to the social capital. Governments can allow social capital to invest in and operate certain services or facilities via franchises for a specified period of time. As a result of involving social capital in the promotion of beautiful and livable areas, government-private partnerships will not only ease the financial burden on the government but also increase efficiency.

2.4. Expand funding sources and strengthen demonstration projects

The promotion of beautiful and pleasant living areas is a matter of people's well-being, involving people's livelihood and happiness, and is an important part of the government's practical work for the people, an important measure to enhance the overall image of the city, as well as an effective way to stabilize growth. To better promote the promotion of beautiful and livable areas, sufficient

funds are necessary as support. As such, the acquisition of additional funding sources is a key foundation and prerequisite for the promotion of beautiful and livable areas. Specifically, Jiangsu Province can try to to fund the promotion of beautiful and livable areas from the following aspects: (1) setting up provincial, municipal and district funds to provide government-level financial support and play a leading role; (2) using a certain percentage of the taxes and fees paid by second-hand housing transactions in a reasonable and legal way; (3) setting a certain percentage of the proceeds from land concessions; (4) making reasonable use of advanced manufacturing industries and smart Internet.

In addition, government departments shall promote the construction of demonstration projects, assist in the smooth development of beautiful and livable areas through effective declaration, selection, and supervision of demonstration projects, give full play to the leading role of demonstration projects, and serve as references for the development of beautiful and livable areas in the province.

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