

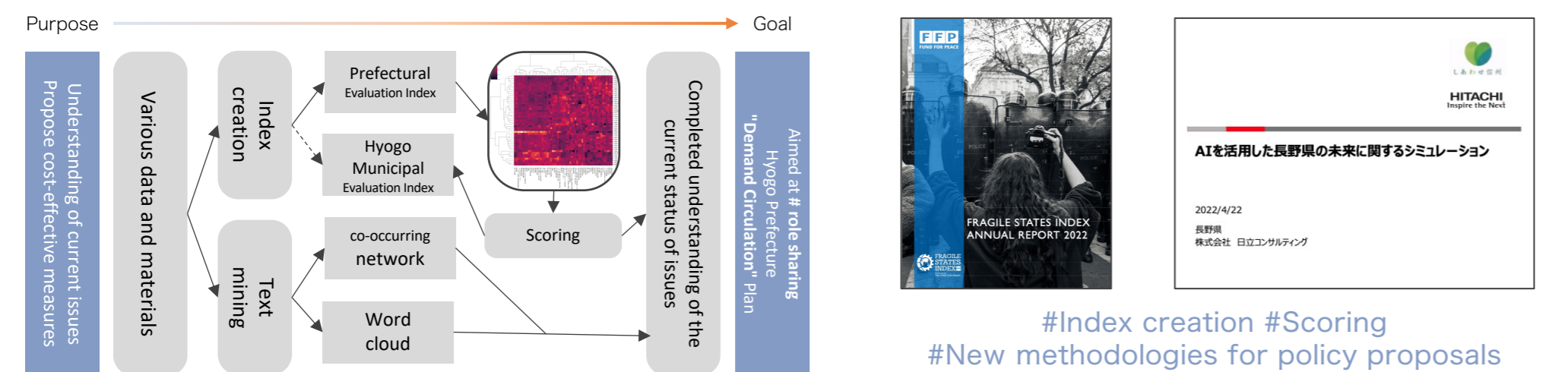
Hyogo Reconstruction Project

The research was conducted with the goal of "understanding the issues and current status of Hyogo Prefecture through DATA ANALYSIS and proposing optimal measures."

Introduction Hyogo Pref. is called "a microcosm of Japan" because it combines a variety of characteristics, from its ocean and mountainous landscapes and tourist attractions to its large metropolitan areas. On the other hand, the prefecture's challenges include the outflow of population to neighboring metropolitan areas and the highest future burden ratio in Japan. If the current situation continues, there are concerns that the rate of social increase and decrease, including the outflow of young people, will further decline and that the prefecture's fiscal problems will become more serious. We, who were distrustful of the current prefectural government, came up with the "Hyogo Reconstruction Project" to grasp the complicated current situation of the prefecture and to propose measures to mutually utilize the various and varied characteristics of the prefecture that are not being fully utilized.

Logic model

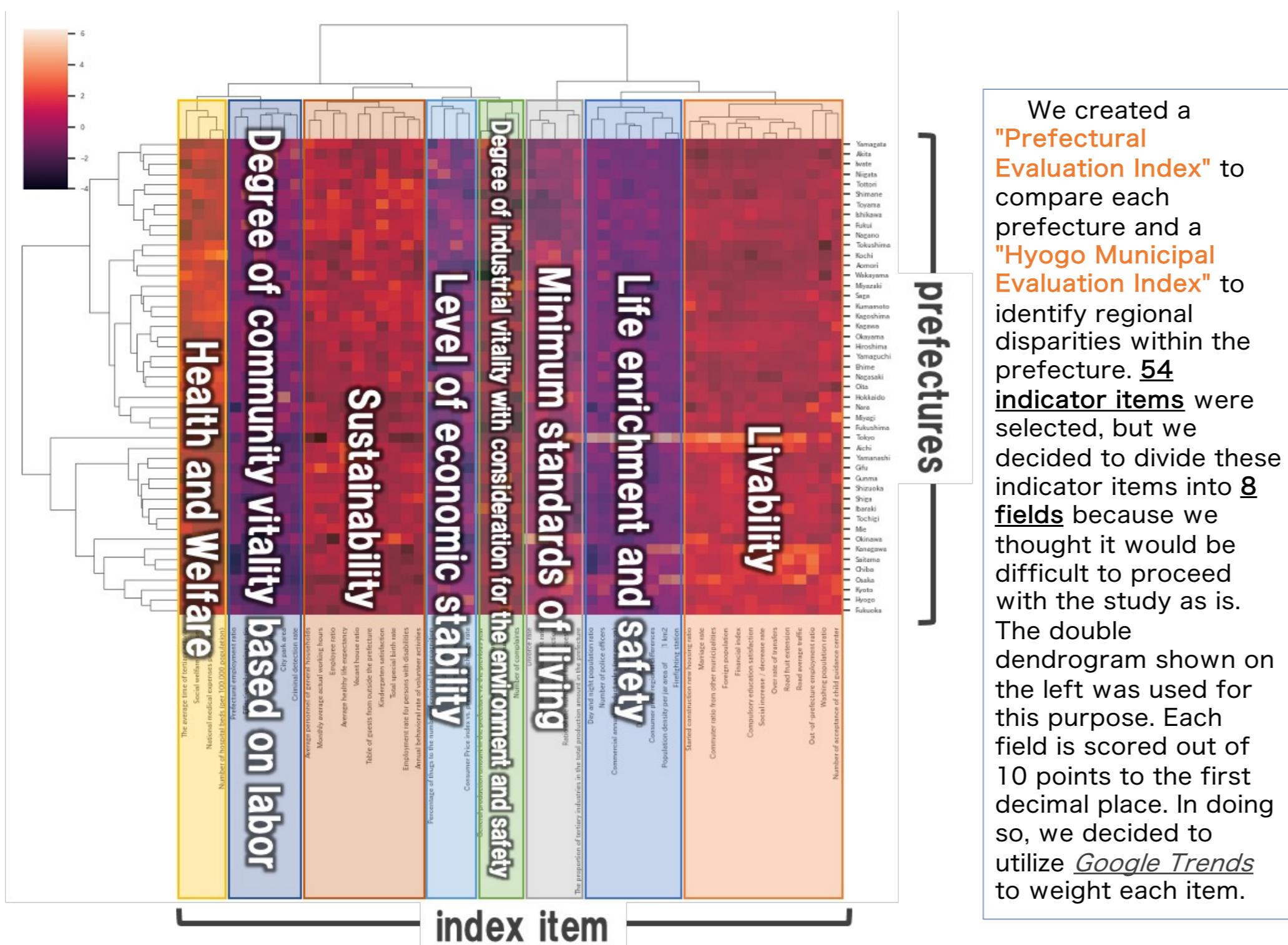
- EBPM (Evidence-based policy making)
- Previous researches



With reference to previous researches, we devised a methodology to evaluate prefectures and municipalities with an "integrated approach" through the creation and scoring of original indicators, which led to the proposal of measures.

Analysis

- Scoring unique indicators using a double dendrogram



#Prefectural Evaluation Index Example of scoring for "Health and Welfare"

field	Health and Welfare			
Index item	Social welfare expenses	National medical expenses per person	Number of hospital beds (per one hundred thousand population)	The average time of tertiary activity
Normalized Score *10	3.0	5.0	7.0	9.0
Searches	2270	2634	3238	4075
Search Percentage	0.1858	0.2156	0.265	0.335

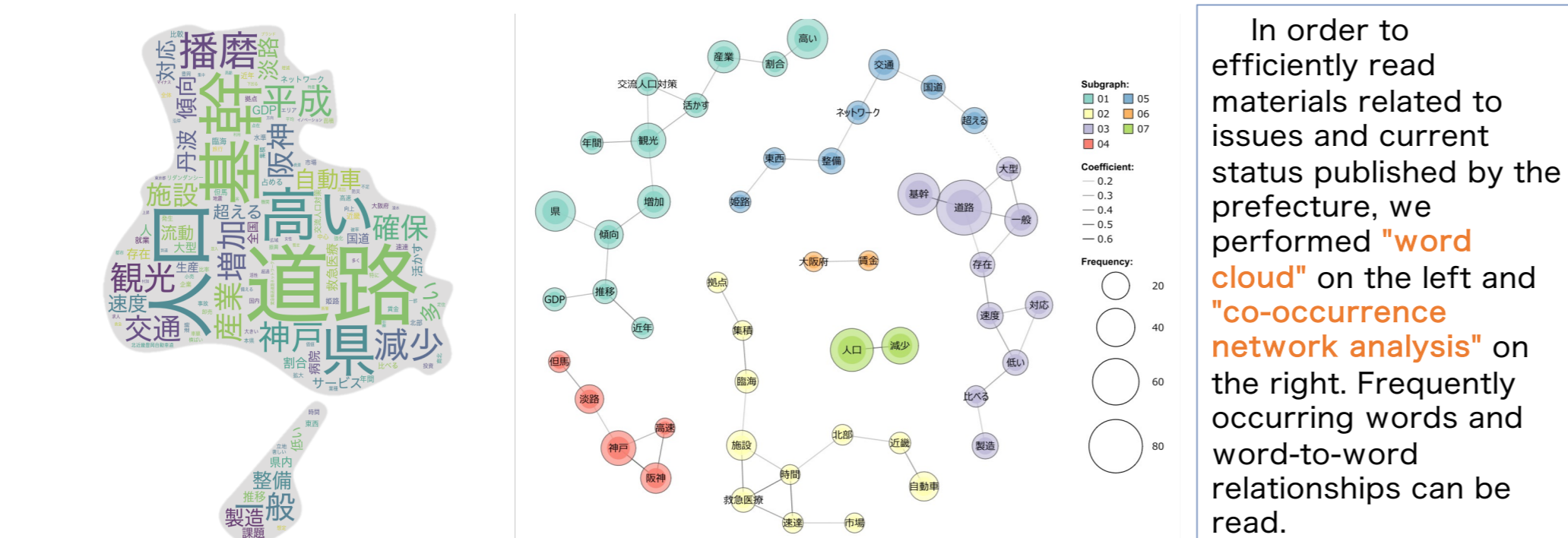
Utilizing Google Trends, the number of searches for each indicator item is considered as its importance and weighted.
 $3.0 \times 0.1858 + 5.0 \times 0.2156 + 7.0 \times 0.265 + 9.0 \times 0.335 = 6.5054$

#Hyogo Municipal Evaluation Index Example of scoring for "Health and Welfare"

field	Health and Welfare			
Index item	Social welfare expenses	National medical expenses per person	Number of hospital beds (per one hundred thousand population)	The average time of tertiary activity
Normalized Score *10	3.0	7.0	7.0	4.075
Searches	2270	2634	3238	4075
Search Percentage	0.1858	0.2156	0.265	0.335

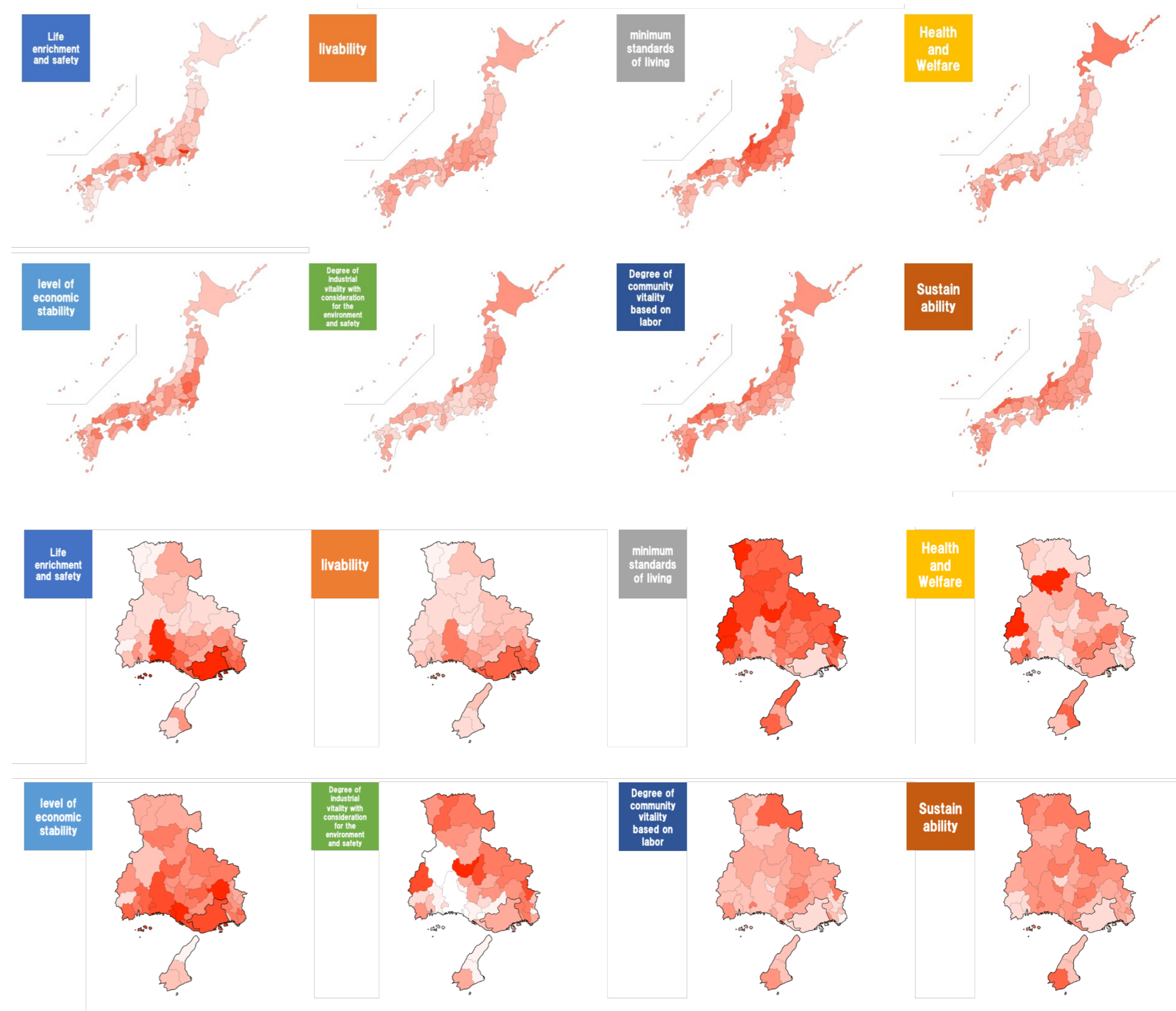
Scores even for municipal data with a small amount of data by modeling prefectural evaluation indices.
 $3.0 \times 0.3525 + 7.0 \times 0.6474 = 5.5893$

- Efficient reading of county materials using text mining

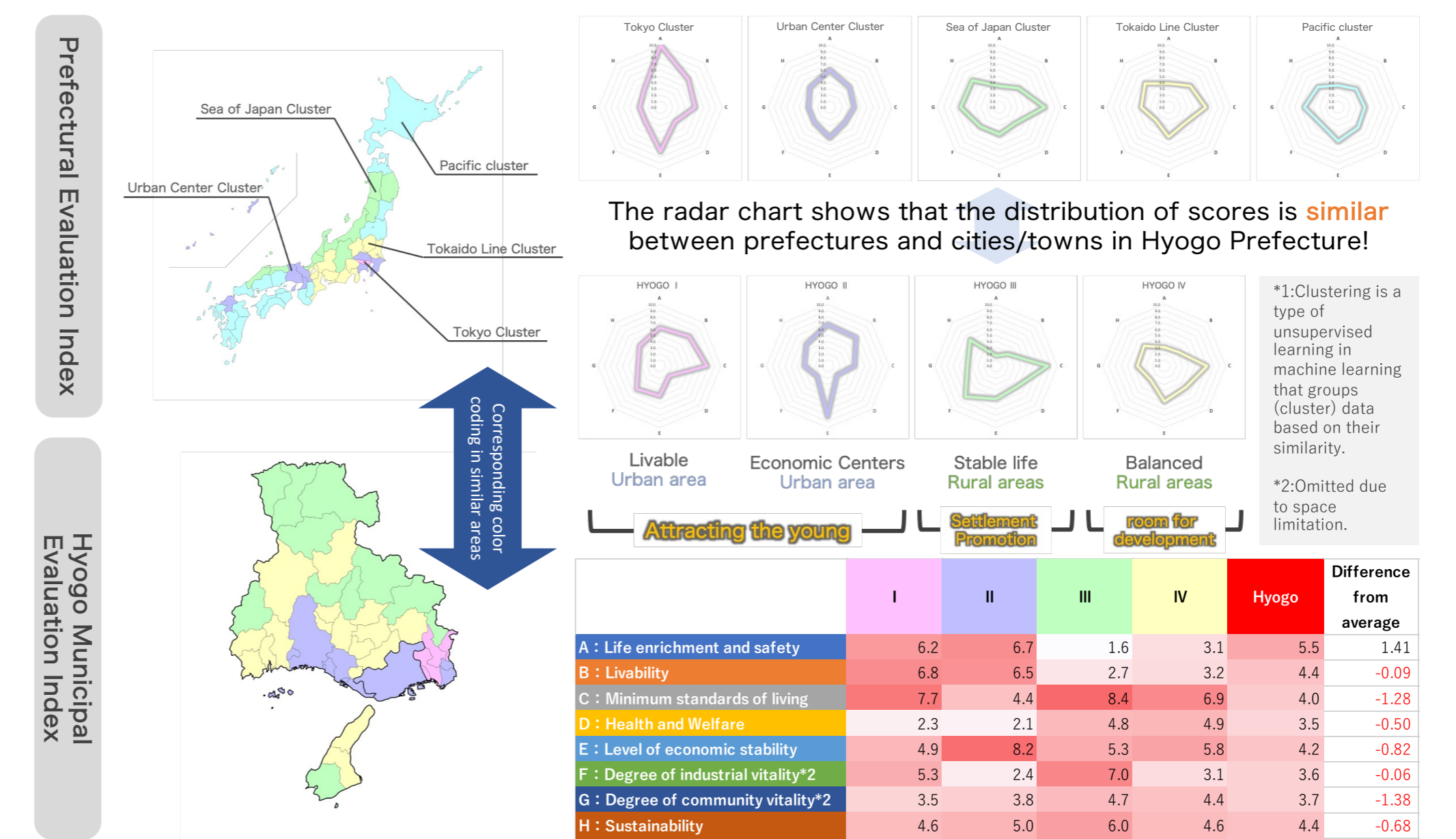


Analysis Results

- Heatmap representation of scores (the darker the red, the higher the score)



- Clustering*1 based on scores, with each cluster represented by a radar chart

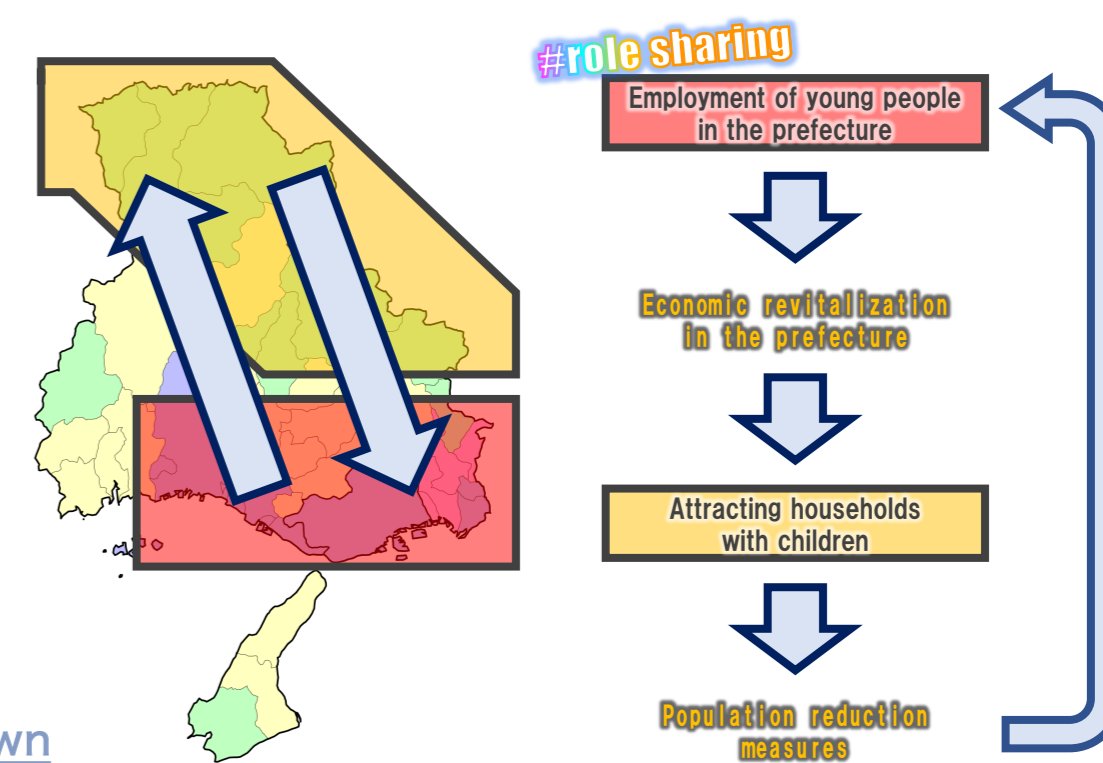


Suggestion

#role sharing Hyogo Prefecture "Demand Circulation" Plan

Hyogo Prefecture has regional differences between the north and south. This is a measure to link these differences by taking advantage of the convenience of transportation on the main roads, and to revitalize the prefecture over the long term.

- Hyogo
 - #High threshold for living
 - #Possibility of instability in the future
 - #From Text Mining... population decline, Interchange Population Measures, backbone
- Urban area
 - #Economic advantage available
 - #The power to attract young people
- Rural area
 - #Easy to live in Hyogo Pref.
 - #The power to make people settle down



Conclusion

Micro analysis by scoring revealed that Hyogo Prefecture as a whole has the characteristics of an urban center, but in reality, its characteristics are seen only in the Hanshin and waterfront industrial areas in the central part of the prefecture, and most of the prefecture has the characteristics of a rural area. Thus, it became possible to visualize issues and current conditions that were not visible through the creation and scoring of original indicators concerning each prefecture and municipality. Future prospects are to evaluate and improve the credibility of the scores, and to have them used to identify issues and current conditions in regions other than Hyogo Prefecture.

References

[LINGAM] [KH Coder] 『市区別主要統計指標令和4年版』 [MANDARA JS] [E-Stat] [Google Trends] [Fragile States Index] [AIを活用した長野県の未来に関するシミュレーション] 『兵庫県地域創生戦略の実施状況について』 『第二期兵庫県地域創生戦略実施状況報告書（令和三年度）』 『地方移住「興味あり」60% 30代関心高く、民間調査』 『〈東西公表〉県内4市6区間で赤字』 『兵庫県の現状と課題』 『神戸・阪神地域における現状・課題と政策目標』 『播磨地域における現状・課題と政策目標』 『但馬地域における現状・課題』 『兵庫県の現状と課題について』 『兵庫経済の現状と課題』 『本県の医療の現状』