

# A Study of Applying Multi-Agent in Innovation Technology Knowledge Services Recommendation on Industry Clusters

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## ABSTRACT

Most modern industries are operated in industry cluster style. Only reinforcing the cluster forming factors could improve the performance of the cluster. Hence, this thesis is aim to build an innovation technology knowledge services recommendation sharing mechanism based on multi-agent technique under industry cluster environment, and this mechanism could suggest the right knowledge services at the right time to the right industry. The main tasks of this multi-agent system are knowledge acquirement and knowledge recommendation. Knowledge acquirement is that the extraction agent could automatically collect the knowledge service descriptions from the innovation knowledge base websites and then stored them in the knowledge repository. Knowledge recommendation is that the register agent provides the industries with a register interface, in order to obtain the industrial technique requirement description. Further, the segmentation agent will separate the entire possible segment results from the industrial technique requirement description based on our proposed segmentation method which could separate out keywords from the industrial technique requirement description. Then the match agent will match the result of segmentation and the knowledge service description retrieved from knowledge base websites, the recommendation agent further recommends the innovation knowledge service to industries. The system development of this research is on JADE platform and its concrete contributions are as follows: (1)We propose a novel platform of innovation knowledge services recommendation. (2)Applying the multi-agent technique to the industry cluster environment could promote the forming factors ' strength of cluster and reconstruct the structure of cluster. (3)Reinforcing the forming factors of industry cluster by setting up an e-system is quite different from the other literatures which only discussed in the management domain. The obtainment of innovation technique information could speed up innovation research development, promote the level of industry and also let the cluster effect more conspicuous. Therefore, the design of innovation technology knowledge service recommendation mechanism is necessary and has its value.

Keywords : Industry cluster ; multi-agent system ; knowledge service recommendation ; segmentation ; innovation technique information

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