

## **Empirical Models of E-Government Growth in Local Governments**

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### **ABSTRACT**

User satisfaction with information provided by information services, such as a search of an online product category, can be improved by recommending potentially useful query alternatives in information retrieval. Naïve recommendation methods do not consider the association between keywords and the prior information retrieval preferences of users. Current improved methods utilize association analysis, a data mining technique, to augment query alternatives, but do not effectively handle continuously changing user query preferences. Improving the automated recommendation method to provide accurate associated query terms is very important. This study designs an incremental rule revision (IRR) mechanism based on a multi-agent architecture for dealing with incremental mining, rule integration, and rule conflict resolution. The IRR method predicts rule accuracy based on rule quality and strength by using back-propagation neural networks. The rule prediction error and rule conflict rate are constantly reduced by the IRR mechanism. Empirical test results demonstrate that the recommendation system using the IRR mechanism achieves better user information satisfaction than by using the query extraction method.

**Keywords:** Neural networks, user information satisfaction, multi-agent system, association analysis, incremental rule revision.