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Kun Chen
City University of Hong Kong

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5
General Knowledge Supported News Analysis for Portfolio Risk Prediction
Kun CHEN[1]
1. Information System, City University of Hong Kong, Hong Kong, Hong Kong.

In the portfolio risk management domain, traditional risk value is just measured by the historical price information. While in the current turmoil financial market, more and more investors are also aware of the importance of real-time market information, such as news about interest rates changes and unemployment, as well as the company bankruptcy, mergers and acquisitions. To make the portfolio risk prediction be sensitive to the real-time news, we propose a multi-agent based intelligent news analysis system. Compared with other news analysis systems, which are based on either domain knowledge or statistical methods, we initially integrate general knowledge in the agent reasoning process. A description logic based general knowledge mediator (DL-GKM) is designed to organize the general ontologies and instances from distributed knowledge sources, and to support dynamic knowledge loading and querying. Through experiments, we find that the DL-GKM and the intelligent news analysis system work seamlessly within the multi-agent framework.