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An event-extraction approach for business analysis from online chinese news

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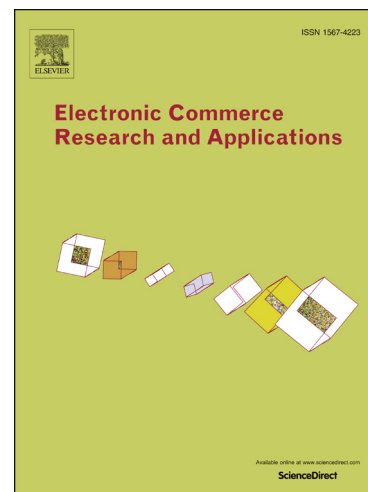
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**AN EVENT-EXTRACTION APPROACH FOR BUSINESS ANALYSIS  
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**ABSTRACT**

Extracting events from business news aids users to perceive market trends, be aware of competitors' strategies, and to make valuable investment decisions. Prior research lacks event extraction in the area of business and event based business analysis, especially in Chinese language. We propose a novel business event-extraction approach integrating patterns, machine learning models and word embedding technology in deep learning, which is applied to extract events from online Chinese news. Word embedding and a semantic lexicon are utilized to extend an event trigger dictionary with high accuracy. Then the trigger features in the dictionary are introduced into a machine learning classification algorithm to implement more refined event-type recognition. Based on a scalable pattern tree, the event type that is discovered is used to find the best-suited pattern for extracting event elements from online news. Experimental results show the effectiveness of the proposed approach. In addition, empirical studies demonstrate the practical value of extracted events, especially in finding the relationships between news events and excess returns for stock, and analyzing industry trends based on events in China.

**Keywords:** Business events; business intelligence; Chinese text analytics; event extraction; explanatory econometrics; machine learning models; natural language processing; online news; patterns; word embedding.

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