What is "business sentiment"?

› Overall impression of the economical situation
  • Generally measured by periodical surveys on business conditions and expectations of, e.g., business managers
  • Important indicator in making plans and actions for governmental/monetary policies and industrial production
  • Different from market sentiment which is an overall attitude of investors to the market or a particular company

Motivations

› Existing business sentiment indices (BSI’s) rely on monthly or quarterly surveys and hence costly to conduct and lack timeliness, which is not ideal when the economic situation rapidly changes due to unexpected events, e.g., COVID-19
› Our previous work (Seki+ 2022) showed that news paper articles can be used to predict BSI surprisingly accurately (R=0.937)
› Develop a demonstration system which provides near-realtime business sentiment (called S-APIR index) fully automatically from crawled web news articles

Main components

• Data collection server collects Nikkei news articles and scrapes the contents
• Inference server predicts business sentiment scores for the contents by a regression model (fine-tuned BERT), aggregated into the S-APIR index
• Web server provides the computed S-APIR index and also allows the user to temporally analyze the impact of a given keyword on the index (Seki+ 2022)

Example

• The line plot shows the S-APIR index and an existing survey-based BSI (observe their similarity)
• The bar plot shows the result of a query "hotel", which tells us the situation is recovering for the hotel business in the last three months
• In contrast, one could see "restaurant" business is still struggling (not shown due to the space limitation), longing for governmental support
• Policymakers could allocate their limited budget to support such businesses

Reference