

## List of Selected Publications

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**Kim, B.** (under review). Frame-sentiment dynamics and evolution in U.S. climate news: Semi-supervised machine learning and panel data analysis. Submitted to *Communication Research* (submitted on April 8, 2024).

- Elaborated on my 2024 conference paper.

**Kim, B.** (2024). Frame-sentiment dynamics and evolution in U.S. climate news: Semi-supervised machine learning and panel data analysis. Submitted to the Communicating Science, Health, Environment, and Risk (ComSHER) division, the Association for Education in Journalism and Mass Communication (AEJMC) annual conference, Philadelphia, PA.

- Analyzed 56,475 news articles (3,534,336 bi-gram tokens) from *The New York Times* and *The Wall Street Journal*.
- Employed “guided” latent Dirichlet allocation (LDA) topic modeling to identify four primary news frames: Market Liberals, Institutionalists, Bioenvironmentalists, and Social Greens.
  - Guided LDA topic modeling is my solution to overcome the challenges that I had while working on my dissertation.
  - Based on the elbow methods, I came up with 18 topics.
  - Reviewing the keywords for each topic and visualization of the topics showing the distance among topics, I came up with 40 keywords for each of the four topics (frames).
  - I adjusted “eta” value to consider the keywords of each frame.
  - The percentage of each topic per news article was considered a value for each variable (frame).
- Assessed news sentiment using a Transformer-based model, revealing temporal dynamics in frame usage and sentiment over time.
- Revealed an increase in the “Institutionalists” and “Bio-environmentalists” frames associated with positive sentiment and a decrease in the “Social Greens” frame associated with negative sentiment. The “Market Liberals” frame showed no statistical evidence.
  - I employed a mixed effect model in panel data analysis to verify temporal shifts in the use of each frame over time.
  - I employed a fixed effect model in panel data analysis to verify the emotional associations of each frame. Interaction effects are included to verify the temporal shifts in the association between emotions and frames and to verify the influence of the news sources.

**Kim, B., Lee, S., & Kim, H.** (2020). A time-series analysis of public diplomacy expenditure and news sentiment: A case study of the U.S.-Japan relationship. *International Journal of Communication*, 14, 5394-5416. (<https://ijoc.org/index.php/ijoc/article/view/13675/3253>).

- Improved upon my 2017 conference paper, adding control variables and expanding data sets by utilizing Python.
- Analyzed over 45,000 news articles from The New York Times, The Washington Post, and The Wall Street Journal employing Joint Sentiment/Topic Modeling to assess sentiment from headlines and lead paragraphs.
- Public diplomacy expenditure was collected using Python utilizing PDF parsing, and adjusted dollar value using the Consumer Price Index.

- Economic factors (i.e., trade volume between the U.S. and Japan and Japanese GDP per capita) were measured.
- Conducted the Granger Causality test (ARDL Bounds test approach), controlling for economic factors (trade volume and GDP) to find significant explanatory power of past public diplomacy expenditures on future positive news sentiment.
  - ARDL Bounds test allows to consider differenced (integrated) non-stationary series at different order together in the same vector model.
  - If co-integration exists, vector model statistically assumed to converge to zero, enabling to test the coefficient of error-correction term whether the model rejects the null hypothesis of the coefficient is equal to zero.

**Kim, B.** (2020). Media framing of climate change in Korea: A content analysis using *K*-means clustering, 2003-2017. Poster presented at the Global Communication and Social Change Division, the International Communication Association (ICA) annual conference, Queensland, Australia (Zoom).

- Revisited my dissertation chapter, adding data and refining the theoretical framework.
- Analyzed over 23,000 Korea news articles (5,680,784 tokens), employing non-parametric ANOVA (Kruskal-Wallis test) to examine clusters yielded from *K*-means clustering against three presidential terms.
- Found a significant difference of using frames in three presidential terms. Specifically, based on a post-hoc test, the Market Liberals and Institutionalists Views on climate change discourse significantly increased in 2008, while the Bioenvironmentalists and Social Greens Views significantly decreased in 2008.
  - Adjusting the study's time frame to compare three presidential terms was satisfactory.
  - Still, applying statistical modeling with unsupervised machine learning outcomes was a problem that I had to overcome – it was resolved in my recent ongoing research.

**Kim, B.** (2020). The political economy of media framing in Korea: An analysis of Korean news coverage of climate change, 1995 - 2015. (Doctoral dissertation). School of Journalism and Mass Communication, University of Iowa. Iowa City, IA.  
(<https://doi.org/10.17077/etd.005219>).

- Critically examined Korea's climate change discourse surrounding the Low-Carbon Green-Growth policy (LCGG policy).
- Analyzed over 21,000 Korean news articles about climate change, employing semantic network analysis, *K*-means clustering with Kruskal-Wallis test, and LDA topic modeling with thematic analysis.
  - Methodological issues regarding applying statistical modeling with unsupervised machine learning outcomes.
  - Kruskal-Wallis test was selected alternatively, but there were more issues such that the results from *K*-means clustering are not following deductive reasoning but inductive reasoning.
  - Qualitative analysis with LDA topic modeling was satisfactory and revealing neoliberalism dominated narrative in Korean climate change news coverage.
- Despite being aligned with globally agreed-upon policies centered on carbon offset, trade mechanisms, and the carbon market, the LCGG policy resulted in a neoliberalism-dominated climate change discourse in Korea.

Lee, S., & Kim, B. (2018). A time-series analysis of international public relations expenditure and economic outcome. *Communication Research*, 45(7), 1012-1030.  
(<http://journals.sagepub.com/doi/10.1177/0093650215581370>).

- Enhanced my 2012 conference paper and 2013 master's thesis from Iowa State University by refining methodological approaches, employing the Vector Error Correction Model (VECM) and Toda and Yamamoto's approach.
- Four countries (Japan, Liberia, Belgium, and the Philippines) were selected based on GDP per capita and public relations expenditure in the U.S.
  - It needed to be elaborated on the process selecting four countries based on the average expenditure in randomly selected three time points and arbitrary categorization of high/low for their GDP per capita.
- Found that public relations expenditures significantly influenced economic outcomes (FDI and trade volume) in selected countries.

Kim, B., Lee, S., & Kim, H. (2017). A time-series analysis of Japanese public diplomacy and the U.S. media coverage from 1996 to 2014. Paper presented at the Public Diplomacy Interest Group, the International Communication Association (ICA) annual conference, San Diego, CA.

- Explored the impact of Japanese public diplomacy expenditures on U.S. media coverage, employing manual content analysis and Granger Causality tests.
  - Ensuring that manual content analysis with selected samples to establish a series data posed a challenge, particularly due to the subsequent number of time points required for time series analysis modeling.
  - Also, time series modeling relies on satisfying the assumption tests, which can only be conducted after the completion of labor-intensive manual content analysis.
  - The recent adoption of Python for web scraping and sentiment analysis presents a cost-effective solution even if the data were eventually found inadequate for time series analysis.
  - Also, it eliminates the need for sample selection.
- Employed a content analysis to measure the valence of headlines in U.S. news coverage of Japan, and conducted the Granger Causality test (ARDL Bounds test approach) to find public diplomacy expenditures in the past terms positively explained the valence of headlines of the U.S. news coverage of Japan.

Kim, B., Eom, J., & Kim, S. (2010). A study of changes in Cheong-gye-cheon space and media discourse: Analysis of Chosun Ilbo (Daily) in the 1960s, 1980s, and 2005. *Korean Journal of Communication and Information*, 51, 26-46.

(<https://scienceon.kisti.re.kr/srch/selectPORSrchArticle.do?cn=JAKO201026334560413>).

- Enhanced my 2009 master's thesis by elaborating on theoretical frameworks and identified dominant frames across different eras in South Korea.
- Analyzed news articles about the Cheong-gye-choen (a stream located in Seoul, South Korea) from 1960 to 2005, focusing on media representation of the space amidst the dynamic physical and political-economic transformations in Korea's modern history.
- Found that the media's portrayal of spatial transformation facilitated the introduction of new production practices while displacing remnants of former economic systems, reflecting the tensions and transitions within Korea's evolving politico-economic landscape.
- The media discourse served as a catalyst for the assimilating of new spatial practices related to the emerging mode of production, while simultaneously marginalizing the physical remnants of the previous cultural and political economy.