

Political Honeymoon Effect on Social Media: Characterizing Social Media Reaction to the Changes of Prime Minister in Japan

Keywords: Twitter, Honeymoon effect, Prime minister, Sentiment analysis, RDD

Extended Abstract

Newly elected national leaders, such as presidents and parliamentary prime ministers (PMs), customarily enjoy high approval ratings immediately after their inaugurations. This phenomenon, known as the *honeymoon effect*, has been observed in democratic countries around the world [2]. Figure 1 is a visualization of monthly approval ratings of the Japanese cabinet from 2006 with the timings of the PMs' change annotated, which indicates a significant jump in approval ratings at each change timing.

Since the honeymoon effect is an important phenomenon from the perspective of government management, politicians and news media pay great attention to it. For example, new leaders tend to take advantage of this period of high approval ratings (i.e., the honeymoon period) as the best time to implement the most audacious (but potentially unpopular) policies that can leave their mark on the future economy and society [1]. Additionally, when the approval rating of the current leader declines, the administrative party attempts to preserve the people's support for the party by putting pressure on the current leader to step down, hoping for the next honeymoon effect [7].

Despite its importance, the mechanism of the honeymoon effect is underexplored. There are many narratives for why the honeymoon effect occurs, most of which come from the news media and previous studies. For example, it is driven by the public expectation of a new leader [8], which makes the mainstream media more gentle to the new leader [2]. On the other hand, such positivity could appear as the previous leader's great decision of resignation is appreciated [4], or treated as the virtue of integrity [3]. In a nutshell, these narratives see the honeymoon effect as a change in sentiment toward two persons—a new leader and a previous leader. However, to what extent these narratives reflect reality has not been sufficiently verified.

In this work, we aim to deepen our understanding of the honeymoon effect by analyzing social media reactions to changes in national leadership. To this aim, we first construct the dataset of tweets that records the reactions to the eight changes of PMs on Twitter over fifteen years. We primarily use Japanese tweets for the analysis. Here, we would like to stress that Japan can provide a desirable case study for the honeymoon effects on social media because 1) Japan has highly frequent changes of PMs compared to other countries since 2006 when Twitter started its service, 2) Japan maintains a high degree of national and linguistic congruence, which is easy to detect the originating country of tweets, and moreover 3) Twitter is quite popular in Japan with approximately 60M users (almost half of its population) and roughly the same number of daily active users as the U.S. [6], from which we can expect a high correlation between the opinions on Twitter and the real world.

We tackle the following research questions by leveraging the dataset:

RQ1: How does the honeymoon effect appear on social media? To answer this question, we analyze the change in sentiment toward the PM before and after the change of PM using sentiment analysis and a regression discontinuity design (RDD).

RQ2: What aspects contribute to the change of sentiments for a new PM? In this RQ, we examine from which aspects the sentiment causes the changes using topic modeling.

RQ3: Who are changing the sentiments toward the prime ministers? Here, we conduct an analysis to capture changes in the sentiment at a user level by tracking individual users before and after the change of PMs. Specifically, we examine whether there is an overlap in the user base of tweets about previous and new PMs. Also, we compare the sentiment among groups in user transition.

As a result, we found social media tend to show a significant jump in sentiment in PM change timings (4 out of 8 times), with one timing when sentiment significantly declined and no significant results in the remaining three times (Figure 2). The sentiment was often significantly lower for PM-specific topics than for topics common to all PMs. Also, comparisons among PMs using common topics showed that topics with positive sentiment differed by PMs (Figure 3). Finally, we revealed that the majority of users were not overlapped between those who tweeted about the previous PM before the resignation and those who tweeted about the new PM after the inauguration (Figure 4). Furthermore, the sentiments of these different user groups were significantly different in many cases (7 out of 8 times). In addition, the sentiment of users who tweeted about the same PM after the inauguration and before the resignation was significantly different (5 out of 8 times). In many cases, the sentiment was lower before the resignation (4 out of 5 times), confirming the honeymoon effect in a different way (Figure 5).

Our contribution is as follows: **1.** To the best of our knowledge, this is the first study to examine the political honeymoon effect using large-scale social media data. The implications from this study would be helpful in future political communication, as well as corporate management (i.e., CEO resignation). **2.** We construct a longitudinal dataset on the change of PM in Japan. We take full advantage of Twitter data to create a 15-year tweet dataset on eight Japanese PMs consisting of 6.6M tweets. **3.** We demonstrate various data analysis methodologies in this study. We use a combination of sentiment analysis and regression discontinuity design to capture the honeymoon effect and also propose an analytical flow to distinguish between unique and common topics for each PM in the topic analysis. We believe these methods will be helpful for following research.

- [1] C. B. K. Dominguez. Is it a honeymoon? an empirical investigation of the president’s first hundred days. In *Congress & the Presidency: A Journal of Capital Studies*, volume 32, pages 63–78. Taylor & Francis, 2005.
- [2] W. J. Hughes. The “not-so-genial” conspiracy: The new york times and six presidential “honeymoons,” 1953–1993. *Journalism & Mass Communication Quarterly*, 72(4):841–850, 1995.
- [3] N. Kambe. Representing disaster with resignation and nostalgia: Japanese men’s responses to the 2011 earthquake. *RCC Perspectives*, (4):15–22, 2017.
- [4] J. news. Why did the abe administration and the ldp’s approval ratings “reverse” from the slump? comparing the “exceptional results” of each company’s polls, 2020. Accessed on 11/20/2022.
- [5] NHK. Monthly survey of political attitudes, 2022. Accessed on 11/22/2022.
- [6] NHK. Musk calls twitter ‘japan-centric’ given high number of users — nhk world-japan news. https://www3.nhk.or.jp/nhkworld/en/news/20221123_10/, 11 2022. (Accessed on 12/01/2022).
- [7] B. Nyblade. The 21st century japanese prime minister: an unusually precarious perch. *The Journal of Social Science*, 62(1):195–209, 2011.
- [8] P. Segatti, M. Poletti, and C. Vezzoni. Renzi’s honeymoon effect: The 2014 european election in italy. *South European Society and Politics*, 20(3):311–331, 2015.

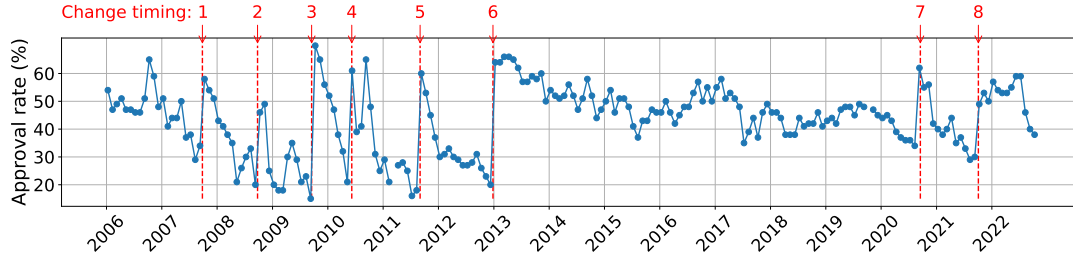


Figure 1: Monthly approval ratings for the Japanese prime ministers since 2006. The timing of the change of prime minister is annotated with a red dotted line. Data from [5].

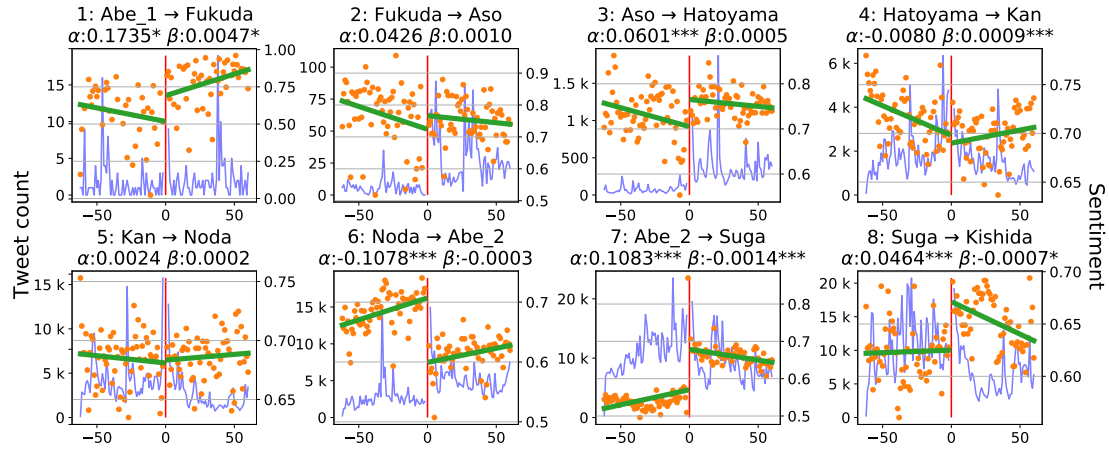


Figure 2: Change in daily sentiment before and after the change of PMs. The left side of the red line shows the period before the PM announced the resignation, and the right side shows the period after the new PM took office. The blue line shows the daily volume of tweets, and the orange dots show the average daily sentiment, with the left side about tweets about the former PM and the right side about tweets about the new PM. The green line depicts the model fitted to the sentiment in the regression discontinuity design (RDD). Above the subplots, we report coefficients associated with the PMs' change in the model (α and β). Coefficients for which $p < 0.001$, 0.01 , and 0.05 are marked with *** , ** , and * , respectively.

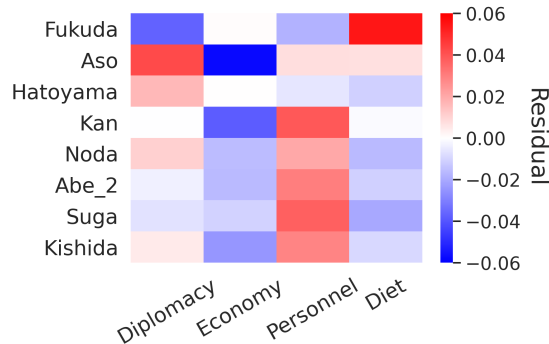


Figure 3: Average sentiments of the tweets with respect to each PM for each topic. The color of each cell corresponds to the value of residual; the redder the color, the higher the sentiment.

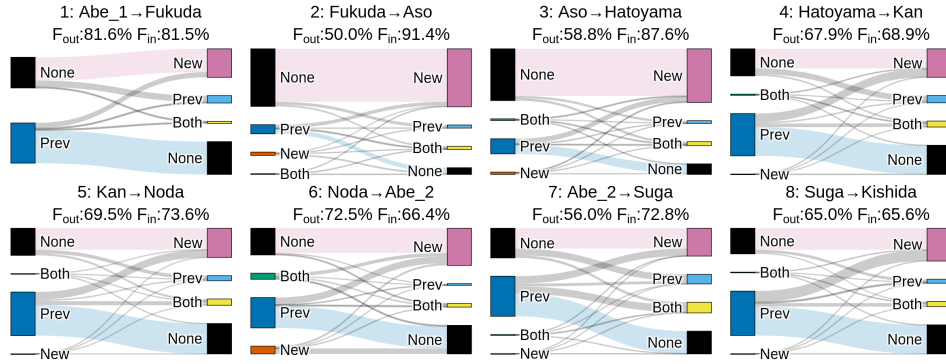


Figure 4: Sankey diagrams indicating user group transitions at each change timing. At each Sankey diagram, each rectangle represents the size of the user base mentioning the prev/new PM. The left side shows the users before the resignation of the previous PM and the right side shows the users after the inauguration of the new PM. F_{out} indicates the percentage of users tweeting neither PM among users who tweeted about the previous PM before his resignation, and F_{in} indicates the percentage of users who newly started tweeting about the new PM among those who did not tweet about either PM before the inauguration.

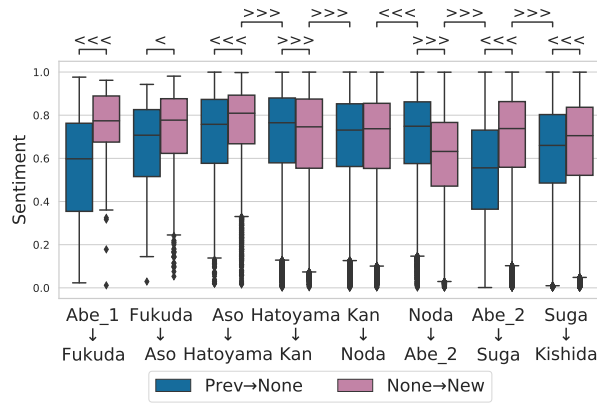


Figure 5: Boxplot of sentiment for groups of user transitions at each change timing. The sentiment of the groups of Prev→None and None→New are compared in each change timing. Also, the sentiments for the same PM in different change timings are also compared. The number of brackets indicates the result of the Mann-Whitney U test: 3: $p < 0.001$, 2: $p < 0.01$, 1: $p < 0.05$. The direction of the brackets is greater for the direction of the open side of the brackets.