

Dissecting university press releases : Direct announcements and news coverage

Masaki Nishizawa
Yuan Sun

Masaki Nishizawa*
Yuan Sun[†]
Department of Information
and Society Research
National Institute of
Informatics
2-1-2 Hitotsubashi
Chiyoda-ku
Tokyo
Japan

ORCID-ID

* 0000-0003-0439-1902

[†] 0000-0002-3765-0723

E-mail

* nisizawa@nii.ac.jp

[†] yuan@nii.ac.jp

* (Corresponding Author)

Traditionally our analysis has relied on press releases retrieved from a newspaper company-produced database, NikkeiTelecom21. In recent years, however, there has been a notable increase in press releases issued directly by universities, with only a portion included in this database. Our comparative study between NikkeiTelecom21 and the Nikkei Shimbun website revealed that, while the number of press releases in the former has declined since 2019, the latter has maintained a steady output. Furthermore, our investigation of press releases directly collected from the websites of four universities registered with the Science Portal showed substantial variation in their inclusion in Nikkei press releases—for example, while the University of Tokyo had an estimated coverage rate of over 80%, Hokkaido University's rate was below 15%. This discrepancy points to potential biases in the dissemination of university press releases and highlights the need for broader representation and more comprehensive analysis in understanding how academic research is publicly communicated.

Keywords: *University press releases, Press release database, Bibliometrics; publication ratio, Japanese universities, Newspaper.*

Introduction

We identified the Digital Object Identifiers (DOIs) of the original papers associated with press releases and examined journal dependence and field dependence in newspaper coverage of these press releases. Previous studies have shown differences in press coverage rates depending on the journal and research field and have also explored relationships between Altmetrics Attention Scores and citation counts [1].

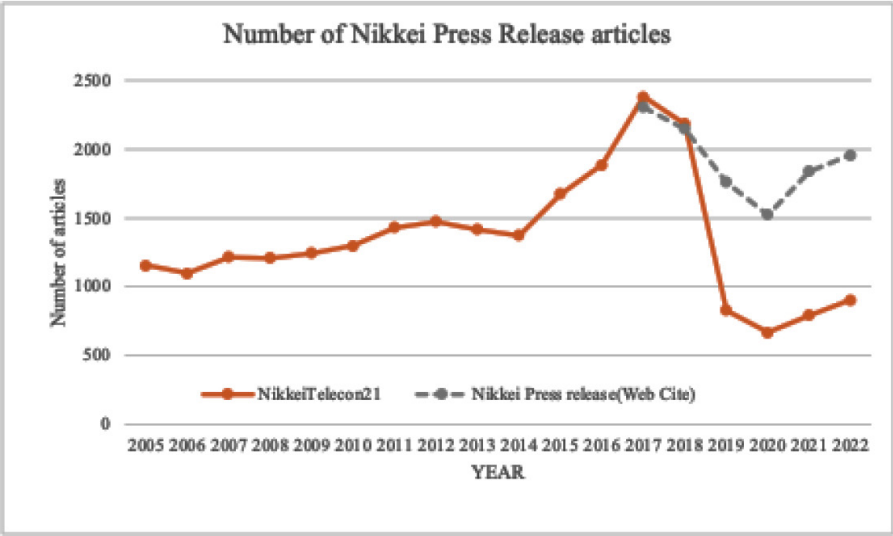


Figure 1
Number of Nikkei press release articles from NikkeiTelecom21 and the Nikkei Shimbun website

Until now, press releases for such analyses have been primarily obtained from a database produced by newspaper companies (NikkeiTelecom21) [2]. However, in recent years, the number of press releases issued directly by universities has increased significantly, while only a fraction of these have been included in the database, creating challenges for comprehensive analysis. Since 2015, NikkeiTelecom21 has included press releases from media outlets other than Nikkei, and especially since 2019, the number of Nikkei press release reprints has declined noticeably, making continuous analysis increasingly difficult. Meanwhile, some Nikkei press releases have also been published as breaking news on the Nikkei Shimbun website (referred to here as “Nikkei press releases”) [3]. This study compares the number of Nikkei press releases reprinted in NikkeiTelecom21 [2] with those published on the Nikkei Shimbun website [3]. As will be shown later, the bulletin information on the Nikkei website has allowed for greater continuity in data collection since 2017. The Japan Science and Technology Agency launched a portal site (Science Portal) [4] that systematically aggregates press releases from participating universities. The portal links to each university’s press release page and allows users to browse announcements from other registered universities as well.

In this study, we investigate press releases from four universities registered in the Science Portal (Hokkaido University, Tohoku University, the University of Tokyo, and Kyoto University) and compare their coverage across the Nikkei sources. This comparison provides insights into dissemination patterns and highlights potential disparities in the media representation of university research.

Data and Methods

The NikkeiTelecom21 database and Nikkei press releases

Our research used press release information from the NikkeiTelecom21 database (NikkeiTelecom21), searched using the keyword “university,” and extracted Nikkei press release materials for analysis. Fig. 1 (NikkeiTelecom21) shows that while press releases from universities and companies have dramatically increased, those from Nikkei that are associated with universities in the NikkeiTelecom21 database have decreased significantly since 2019. Meanwhile, recent information related to Nikkei press releases can also be retrieved from the Nikkei Shimbun website (Nikkei press releases) [3], although not all information is available. As of April 2023, we obtained data on Nikkei press releases after 2017 by using “university” as a search keyword on this site and scraping the results. Fig. 1 (Nikkei press release [website]) shows the number of university-related Nikkei press releases from 2017 to 2022 obtained through this method. In 2017 and 2018, the two series in Fig. 1 are observed to overlap. A comparison of the number of articles between the two datasets showed only minor differences. Assuming a Poisson distribution, the variation was less than 2σ in 2017 and within 1σ in 2018, suggesting no statistically significant discrepancy in article counts for those years. Since 2019, however, the number of Nikkei press releases (website) has not declined as much as that in NikkeiTelecom21. Therefore, although the decrease in data volume after 2017 remains somewhat unnatural, we use the data obtained through this method for Nikkei press releases (website) and combine it with NikkeiTelecom21’s pre-2017 data. Based on this combined dataset, the following analysis is conducted.

Because the Nikkei press releases used in this study were retrieved using the keyword “university,” the data also included press releases unrelated to university research results. To aid in identifying the content, the titles of the Nikkei press releases for each organization were edited so that the main organization appears at the beginning and the verb at the end, making it easier to understand what was being done. From the classification of these verbs, one can roughly determine whether the content referred to a research result or to the beginning of a collaboration. In our previous analysis [5], these verbs were categorized into five groups, as shown in Table 1, with an additional category for those that could not be

Table 1
Approximate meanings of the five verb groups

<i>verb grp</i>	<i>grp name</i>	
G1	研究・開発	research, develop -- result
G2	開始	start
G3	連携	collaborate
G4	発表	announce
G5	提供・導入・構築	provide, install, construct
G6	その他	other

classified. Here, G1 can be broadly regarded as referring to research results. Although detailed analysis was not conducted in this study, G4 and G6 may also include research-related content. The classification of individual cases remains a task for future work; in this study, only G1 is treated as representing research outcomes.

Organizations in Nikkei press releases

Nikkei press releases typically include a description at the beginning of the title that identifies the issuing organization. For details of this method, see previous reports [1, 5, 6, 7]. It should be noted, however, that there may be overlaps when collecting statistics for each institution, as some press releases mention multiple organizations. Table 2 presents the number of press releases from the top 10 institutions (excluding corporate entities) between 2005 and 2018, as retrieved from NikkeiTelecom21. In contrast, Table 3 shows the

Table 2

Number of press releases from the top 10 institutions (excluding the corporate sector) from 2005 to 2018 retrieved from NikkeiTelecom21

<i>Org. (except Corp)</i>	<i>Sect.</i>	<i>Total</i>	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Univ. Tokyo	Univ	2061	7	10	11	11	29	81	169	172	193	156	252	288	332	350
Tohoku Univ.	Univ	1449	6	19	32	44	53	61	80	99	115	136	127	194	247	236
Riken	InstN	1180	6	17	68	90	73	67	77	70	99	83	114	123	129	164
Kyoto Univ.	Univ	633	2	3	3	10	4	7	32	66	72	36	52	66	141	139
AIST	InstN	418	31	28	34	41	18	27	19	27	23	24	29	40	41	36
Kyusyu Univ.	Univ	392	1	1	1	3		4	7	13	6	10	34	83	135	94
JSPS	Pub	355		2	6	7	11	23	54	78	32	11	7	16	46	62
Keio Univ	Univ	330	4	3	13	7	13	10	10	43	37	36	45	43	39	27
Osaka Univ	Univ	287	6	2	2	3	5	4	9	17	17	11	25	45	60	81
Hokkaido Univ.	Univ	168	1	2	1	3	6	29	31	20	8	5	9	15	19	19

Table 3

Number of press releases from the top 12 institutions from 2017 to 2022 obtained from the Nikkei Shimbun website

<i>ORG</i>	<i>SECT</i>	<i>Total</i>	2017	2018	2019	2020	2021	2022
Univ. Tokyo	Univ	2339	333	349	392	383	438	444
Tohoku Univ.	Univ	1627	247	235	235	280	315	315
RIKEN	InstN	613	127	163	113	72	63	75
Kyoto Univ.	Univ	520	136	137	108	30	49	60
Osaka Univ.	Univ	338	60	82	55	47	47	47
Kyusyu Univ.	Univ	324	135	94	16	16	27	36
JSPS	Pub	274	45	62	54	36	39	38
Keio Univ.	Univ	201	39	27	25	23	41	46
Tokyo Inst. Tech.	Univ	195	32	30	40	32	37	24
Wasada Univ.	Univ	188	20	21	24	37	29	57
Nagoya Univ.	Univ	169	27	34	31	18	32	27
Hokkaido Univ.	Univ	157	19	19	20	26	31	42

Table 4
Number of articles (2017–2022) from the four institutions divided into verb groups (G1–G6)
(Nikkei press release (website))

<i>ORG</i>	<i>verb-grp</i>	<i>Total</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>
Hokkaido Univ.	G1	111	13	15	14	19	18	32
	G2	12	1		2	5	2	2
	G3	10	1	1	1		4	3
	G4	6				1	2	3
	G5	6	3		1		2	
	G6	12	1	3	2	1	3	2
Tohoku Univ.	G1	1271	198	193	178	223	249	230
	G2	106	17	12	18	19	15	25
	G3	47	12	5	9	6	6	9
	G4	72	7	6	8	13	18	20
	G5	41	6	3	8	8	5	11
	G6	91	7	16	14	11	22	21
Univ. Tokyo	G1	1867	280	275	307	318	340	347
	G2	155	23	19	37	20	28	28
	G3	46	5	11	8	11	8	3
	G4	99	5	8	20	19	18	29
	G5	36	3	5	5	6	7	10
	G6	138	17	31	16	10	37	27
Kyoto Univ.	G1	407	120	103	85	23	34	42
	G2	43	6	9	6	4	11	7
	G3	11	1	1	2	1	2	4
	G4	8	1	1	1		2	3
	G5	9	2	3	1	1	1	1
	G6	43	6	20	13	1		3

number of press releases from the top 12 institutions between 2017 and 2022, based on data from the Nikkei Shimbun website. As previously noted, these press releases contain not only research results but also other types of information. To enable comparison with the number of press releases directly published by universities—which will be discussed in the next section—it is necessary to extract only those that report research outcomes. Therefore, the later analysis will focus exclusively on G1 (research, development) as defined in Table 1. Table 4 shows the number of press releases (2017–2022) from four selected institutions—Hokkaido University, Tohoku University, the University of Tokyo, and Kyoto University—categorized by verb groups (G1–G6). This data will serve as the basis for comparison in the following section.

Research results directly from the universities

An increasing number of universities are directly disseminating their research results. As of April 2023, 57 universities were registered in the Science Portal [4], and from these, top institutions listed in Tables 2 and 3 were selected for comparison. The candidate universities included Hokkaido University, Tohoku University, the University of Tokyo,

Nagoya University, Kyoto University, Osaka University, and Kyushu University. However, Nagoya University only had available data from 2019 onward, and Osaka University was not registered in the Science Portal, so no site for its research results could be found. For Kyushu University, scraping errors could not be resolved in time. Therefore, this study examined the remaining four institutions: Hokkaido University, Tohoku University, the University of Tokyo, and Kyoto University.

We used Python to scrape the press release pages of these four universities to obtain research-related press release data. Hokkaido University and Kyoto University had a single “research results” category, whereas Tohoku University and the University of Tokyo had multiple categories. Ultimately, press releases listed under the “press release” or “research results” category was selected for analysis.

Results

Table 5 shows the number of articles on research results obtained from the university websites between 2011 and 2022 (for Kyoto University, from 2014 to 2022). For comparison, the table also includes the number of research-result articles (G1) in Nikkei press releases, collected from both NikkeiTelecom21 and the Nikkei Shimbun website. Additionally, the table presents the ratio of Nikkei press releases to university website articles—referred to as the “coverage ratio.”

A substantial difference in coverage ratio was observed among the universities. The University of Tokyo had an average coverage ratio of approximately 81%, while the ratios for Tohoku University, Kyoto University (2014–2022), and Hokkaido University were about 52%, 24%, and 13%, respectively. However, it must be considered that not all published research results may be issued as press releases by universities. This makes it difficult to draw definitive conclusions from the coverage ratios alone. If Nikkei publishes all submitted press releases without bias, its data would serve as a useful proxy—eliminating the need to analyze university websites individually. However, if selection bias exists in what Nikkei

Table 5
Comparison of press releases from university websites (Univ-Web) and Nikkei press releases (Nikkei-PR) for the four universities

ORG	Media	Total	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Hokkaido Univ.	Univ-Web	1414	33	46	72	73	84	119	119	116	133	153	238	228
	Nikkei-PR	185	27	18	8	3	5	13	13	15	14	19	18	32
	Cover ratio	13.1%	81.8%	39.1%	11.1%	4.1%	6.0%	10.9%	10.9%	12.9%	10.5%	12.4%	7.6%	14.0%
Tohoku Univ.	Univ-Web	3702	180	227	222	251	249	306	336	320	325	407	447	432
	Nikkei-PR	1921	67	81	104	116	112	170	198	193	178	223	249	230
	Cover ratio	51.9%	37.2%	35.7%	46.8%	46.2%	45.0%	55.6%	58.9%	60.3%	54.8%	54.8%	55.7%	53.2%
Univ. Tokyo	Univ-Web	3589	185	222	238	236	240	257	297	303	338	390	436	447
	Nikkei-PR	2913	140	144	163	133	225	241	280	275	307	318	340	347
	Cover ratio	81.2%	75.7%	64.9%	68.5%	56.4%	93.8%	93.8%	94.3%	90.8%	90.8%	81.5%	78.0%	77.6%
Kyoto Univ.	Univ-Web	2295				120	169	209	255	259	245	301	364	373
	Nikkei-PR	544				32	44	61	120	103	85	23	34	42
	Cover ratio	23.7%				26.7%	26.0%	29.2%	47.1%	39.8%	34.7%	7.6%	9.3%	11.3%

chooses to publish, analyses based solely on Nikkei data must be approached with caution. The Science Portal displays the five most recent research press releases from each registered institution, but because these are provided only as links, obtaining additional data beyond the title is challenging. In any case, it is clear that Nikkei press releases do not comprehensively cover all university announcements, and direct access to university websites will continue to be necessary for more complete analysis.

Conclusions and Discussions

This study investigated how university research press releases are disseminated across different platforms in Japan by comparing data from NikkeiTelecom21, the Nikkei Shimbun website, and the official websites of four leading universities. The analysis revealed three key findings. First, the number of university-related press releases indexed in NikkeiTelecom21 has declined sharply since 2019, limiting its suitability as a sole data source for longitudinal analysis. Second, the Nikkei Shimbun website maintained a relatively stable count of research-related press releases, suggesting its increasing relevance for media-based dissemination tracking. Third, significant variation exists in the media coverage rate across universities: while the University of Tokyo had a coverage ratio exceeding 80%, others such as Hokkaido University saw rates below 15%.

These results highlight a potentially uneven landscape in how academic knowledge is communicated to the public through press releases. If media outlets tend to select and amplify research from certain institutions or fields over others, this introduces systemic bias into public scientific discourse. Conversely, some universities may not fully utilize the potential of press releases as a tool for public engagement and knowledge dissemination. For universities, these findings offer important practical implications. A more strategic approach to research communications such as improving the clarity, structure, and scientific relevance of press releases—could enhance their visibility and increase the likelihood of media uptake. Moreover, understanding the characteristics of press releases that are more likely to be covered (e.g., topical relevance, social impact, journal prestige) can inform the development of institutional guidelines for science communication.

From a broader perspective, this study contributes to ongoing discussions about equitable science communication and open scholarship. While institutional press release pages provide direct and diverse channels of communication, they lack standardized metadata and centralized aggregation. This underscores the need for a more integrated, transparent infrastructure for tracking and analyzing academic outreach efforts in Japan. There are, however, several limitations. The current study analyzed only four universities and focused primarily on quantitative coverage rates without incorporating detailed content or linguistic analysis. Future research should extend the dataset to include a wider range of institutions and explore the qualitative aspects of press release content—such as framing strategies, headline structures, and topical trends—that may influence media selection.

Ultimately, this research helps illuminate the mechanisms through which academic knowledge enters the public sphere and provides a foundation for more inclusive and evidence-based research communication practices. Closer collaboration between academia, media organizations, and policy bodies will be essential to ensure that university research—regardless of origin—is fairly represented in public discourse.

Acknowledgments

This work was supported by JSPS KAKENHI grant numbers 16K00455 and 25280121.

References

- [1] Masaki Nishizawa and Yuan Sun, “Exploring the relation between press releases and media coverage of Japanese university research outputs,” Proc. COLLNET and WIS 2019, Macau, China (2018). [Online]. Available: <https://doi.org/10.22032/dbt.39326>
- [2] Nikkei Telecon21. [Online]. Available: <http://t21.nikkei.co.jp/>. Accessed: Jun. 2023. (in Japanese)
- [3] Nikkei Press Release. [Online]. Available: <https://www.nikkei.com/pressrelease/>. Accessed: Jun. 2023. (in Japanese)
- [4] Science Portal. [Online]. Available: <https://scienceportal.jst.go.jp/release-university/>. Accessed: Apr. 2023. (in Japanese)
- [5] Masaki Nishizawa and Yuan Sun, “How does the newspaper describe scientific research result?—Attention to correlation of Press Releases and a newspaper article,” Proc. COLLNET and WIS 2013, Tartu, Estonia (2013).
- [6] Masaki Nishizawa and Yuan Sun, “How well do newspapers describe scientific research?—Comparison between Press Releases and two different national newspapers in Japan,” Proc. COLLNET and WIS 2014, Ilmenau, Germany, pp. 263–270 (2014). [Online]. Available: https://www.db-thueringen.de/servlets/MCRFileNodeServlet/dbt_derivate_00030829/ilm1-2014200150.pdf
- [7] Masaki Nishizawa and Yuan Sun, “How is scientific research announced in press release?—Focusing on its relationships with journal indicators,” Proc. COLLNET and WIS 2016, Nancy, France (2016).