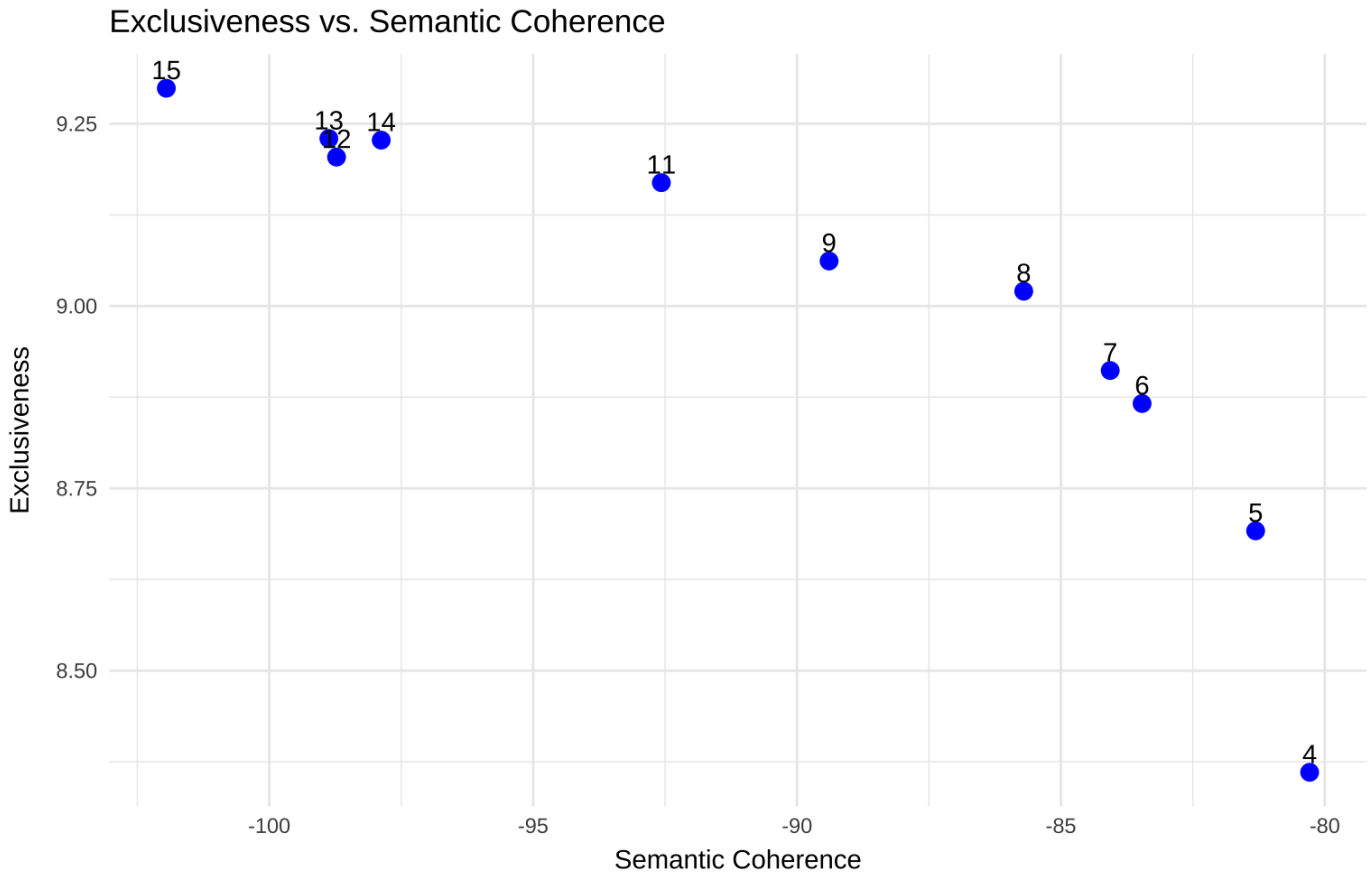
Appendix

（Title: Supply-Side Agenda Polarization in a Divided Democracy: Taiwan's 2025 Great Recall Movement）

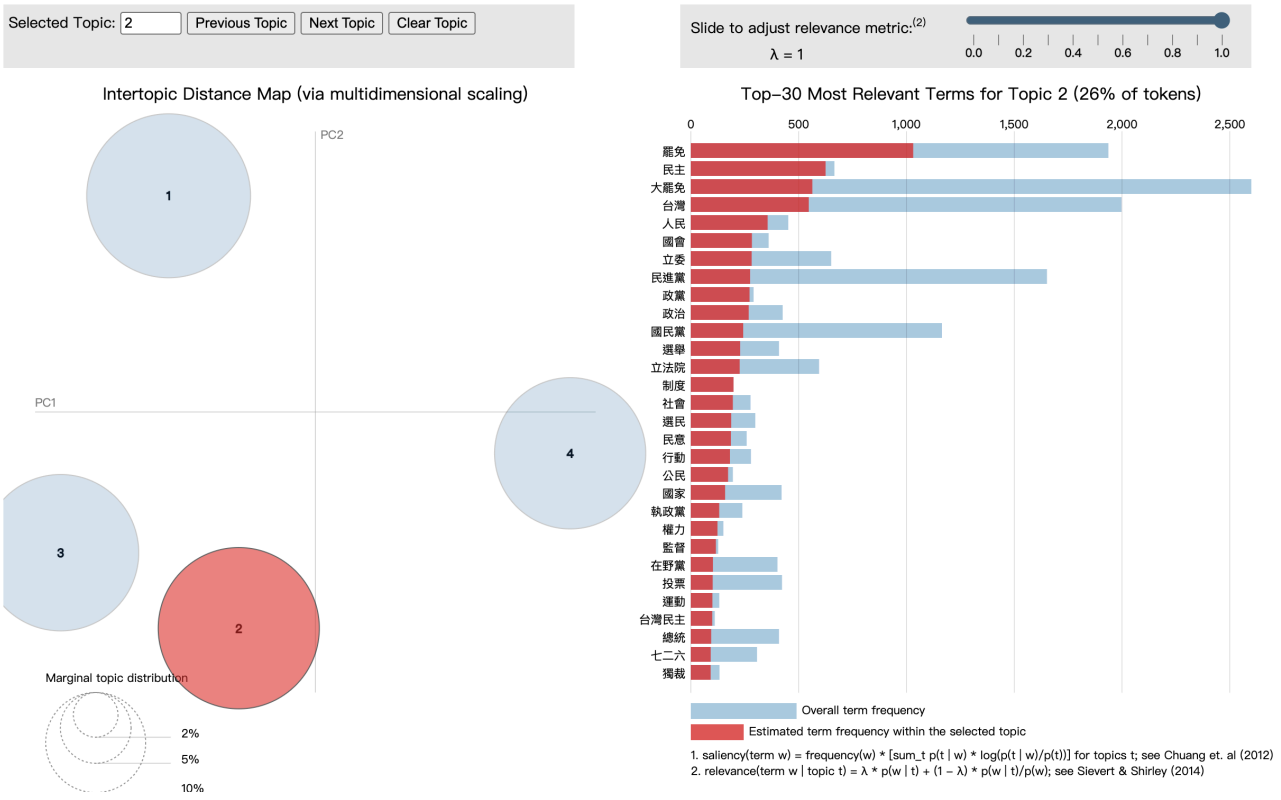
Figure A. Topic quality trade-off: exclusivity Vs. semantic coherence.



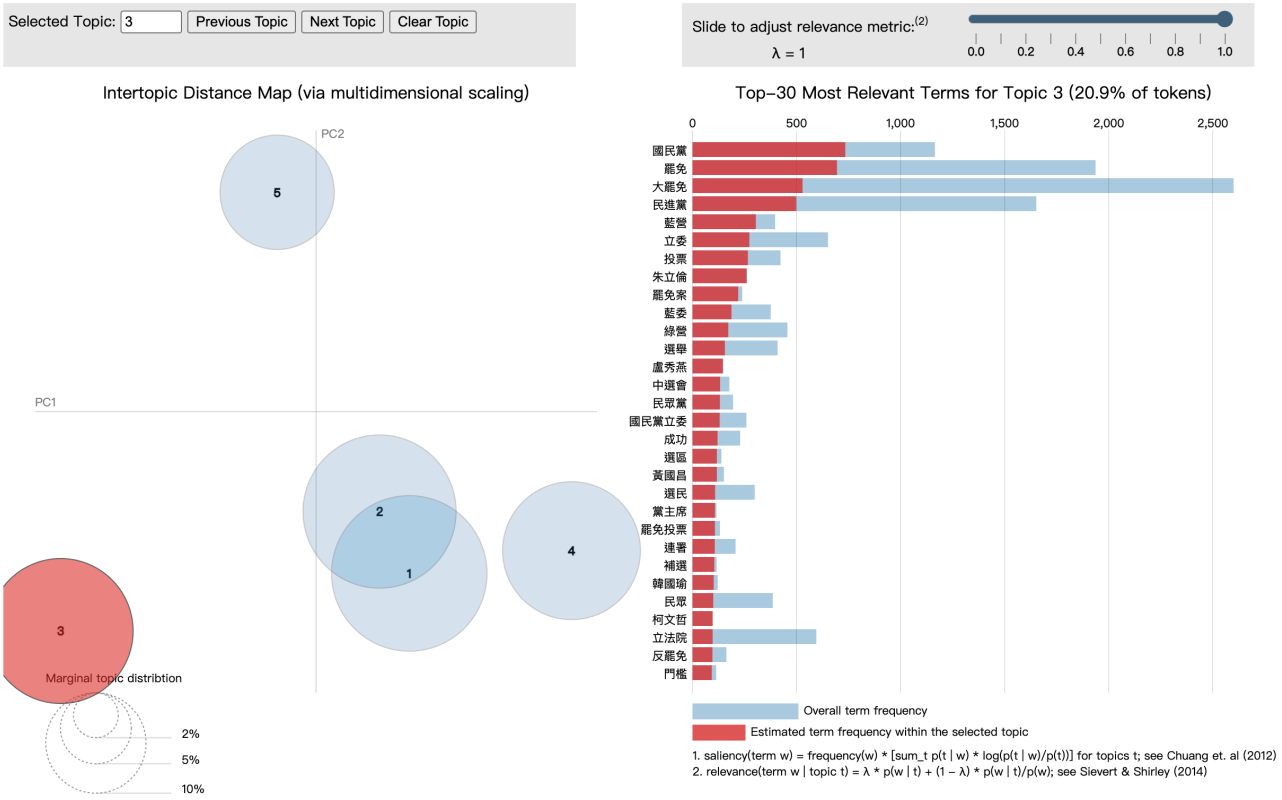
Note. The figure illustrates the inherent trade-off in topic modeling between semantic coherence (interpretability) and exclusiveness (distinctiveness), highlighting the balance required to obtain topics that are both meaningful and non-redundant.

Figure B. Intertopic Distance Map and Top-30 Most Salient Terms via LDAvis.

A. K = 4.



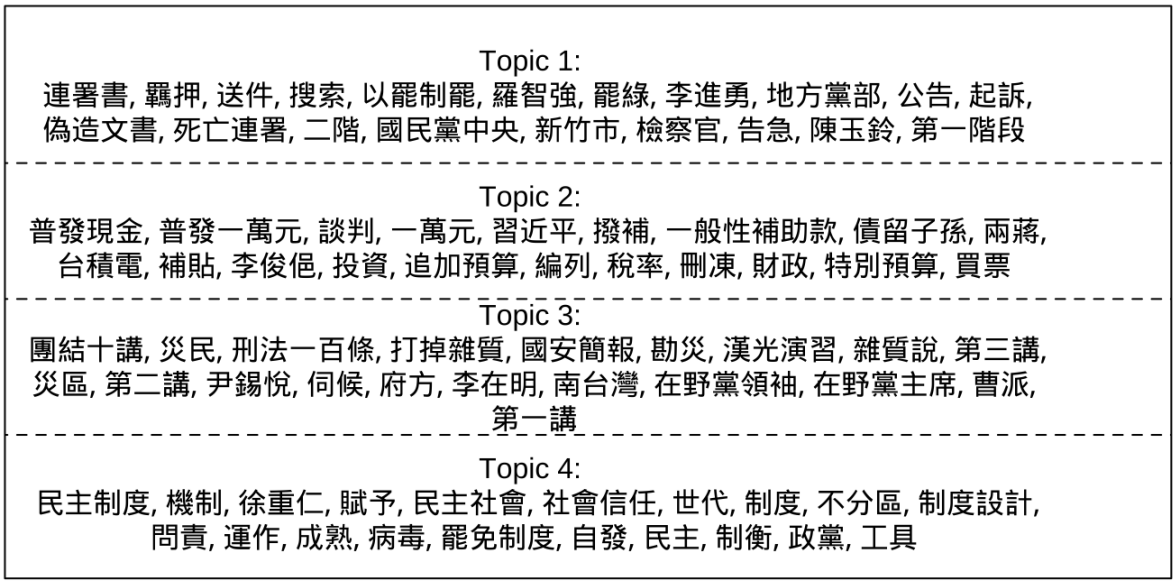
B. K= 5.



Note. This visualization, generated via LDAvis, provides a dual-perspective validation of the topic model. The left panel displays the Intertopic Distance Map, where topic prevalence is represented by bubble size and semantic distinctiveness is mapped using multidimensional scaling. The right panel ranks the Top-30 Most Salient Terms, facilitating precise thematic interpretation.

The choice of k = 4 topics was determined through iterative optimization for model parsimony and semantic clarity. At this granularity, all four topics occupy distinct quadrants with no spatial overlap, indicating high mutual exclusivity. Tests with K >= 5 resulted in significant semantic

Figure C. Top Words Ranked by FREX Scores Across the Four-Topic Structure.



Note on Topic Keywords (FREX): To identify the most representative terms for each topic, this study utilizes FREX scores—a weighted harmonic mean that balances word frequency and exclusivity. Unlike simple frequency-based metrics, which often highlight common but non-distinguishing function words, FREX prioritizes terms that are both highly probable within a specific topic and rare in others.

clustering and overlap, suggesting over-segmentation where categories became theoretically redundant. Thus, a four-topic structure offers the most robust framework for capturing the divergent narratives within Taiwan's polarized media ecology.

Figure D. Top FREX Words per Topic (Mandarin with English Translation).

Topic 1 連署書 — petition form, 羈押 — detention, 送件 — submitting documents, 搜索 — conduct a search, 以罷制罷 — using recall to counter recall, 羅智強 — Luo Zhixiang (KMT legislator), 李進勇 — Li Jinyong (Chairperson of the Central Election Commission), 地方黨部 — local party branch, 公告 — public announcement, 起訴 — prosecution, 偽造文書 — falsifying documents, 死亡連署 — petition signatures by deceased persons, 二階 — second stage, 國民黨中央 — KMT central, 新竹市 — Hsinchu City ,檢察官 — prosecutor, 告急 — urgent warning, 陳玉鈴 — Chen Yuling (Nantou Councilor), 第一階段 — first stage
Topic 2 普發現金 — universal cash distribution, 普發一萬元 — universal disbursement of ten thousand NT dollars, 談判 — negotiation, 一萬元 — ten thousand dollars, 習近平 — Xi Jinping, 撥補 — allocate supplementary funds, 一般性補助款 — general subsidies, 債留子孫 — leaving debt to descendants, 兩蔣 — the two Chiangs (Chiang Kai-shek & Chiang Ching-kuo), 台積電 — TSMC, 補貼 — subsidy, 李俊俋— Li Junlun (the gen. secretary of the Control Yuan), 投資 — investment ,追加預算 — supplementary budget, 編列 — budget allocation, 稅率 — tax rate, 刪凍 — suspend & remove, 財政 — fiscal affairs, 特別預算 — special budget, 買票 — vote-buying
Topic 3 團結十講 — Unity Lecture Series 10 (transliteration; specific program title), 災民 — disaster victims, 刑法一百條 — Article 100 of the Criminal Code, 打掉雜質—eliminate impurities, 國安簡報 — national security briefing, 漢光演習 — Han Kuang military exercises, 雜質 — impurities, 第三講 — third lecture, 災區 — disaster area, 第二講 — second lecture, 尹錫悅 — Yoon Suk-yeol (person's name), 伺候 —, 府方 — the presidential office, 李在明 — Lee Jae-myung, 南台灣 — southern Taiwan, 在野黨領袖 — opposition party leaders, 在野黨主席 — opposition party chairperson, 曹派 — Cao faction (political faction name), 第一講 — first lecture
Topic 4 民主制度 — democratic system ,機制 — mechanism ,徐重仁 — Hsu Chung-jen, 賦予 — confer to ,民主社會 — democratic society ,社會信任 — social trust ,世代 — generations ,制度 — institution,不分區 — proportional representation,制度設計 — institutional design, 問責 — accountability, 運作 — operation / functioning, 成熟 — mature, 病毒 — virus, 罷免制度 — recall system, 自發 — spontaneous / self-initiated, 民主 — democracy, 制衡 — checks and balances, 政黨 — political parties, 工具 — tool / instrument

Table A. A CLR-MANOVA Analysis of the 2025 Recall Cycle.

(Corresponding to Figure 2)

Predictor	clr_T1	clr_T2	clr_T3	clr_T4
(Intercept)	-0.914*** (0.065)	-0.378*** (0.064)	1.027*** (0.052)	0.264*** (0.052)
CN & HK Outlets	0.541** (0.206)	-0.798*** (0.203)	1.308*** (0.167)	-1.051*** (0.164)
Jornal San Wa Ou	3.150*** (0.168)	-1.571*** (0.166)	-0.788*** (0.136)	-0.791*** (0.134)
Liberty Times	0.770*** (0.094)	1.431*** (0.092)	-3.191*** (0.076)	0.990*** (0.075)
United Daily News	0.564*** (0.096)	-0.104 (0.094)	-0.312*** (0.078)	-0.149† (0.077)
Two Month Ahead	0.638*** (0.081)	-0.036 (0.080)	-0.372*** (0.066)	-0.230*** (0.065)
N	2033	2033	2033	2033
Residual SE	1.682	1.655	1.359	1.340
R^2	0.188	0.199	0.533	0.160
Adj. R^2	0.186	0.197	0.531	0.158

Note 1. Dependent variables are clr_T1–clr_T4. Reference categories: *China Times* (source2) and One Month Ahead (period).

Note 2 . Entries are OLS coefficients from CLR-transformed topic shares with standard errors in parentheses. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Table B. CLR–MANOVA multivariate tests (Pillai's trace).

Predictor	Pillai	Approx. F	Num df	Den df	p
Media source (source2)	0.73	162.65	12	6081	< .001

Table C. PERMANOVA results for agenda differentiation based on Aitchison and Euclidean distances

Factor	Metric	Df	Sum of Sqs	R^2	F	Pr(>F)
Media Source	Aitchison	4	7188.4	**0.2731**	195.16	< .001***
	Euclidean	4	112.31	**0.1336**	79.66	< .001***
Period	Aitchison	1	256.8	**0.0098**	27.89	< .001***
	Euclidean	1	8.45	**0.0101**	23.98	< .001***
Residual	Aitchison	2027	18665.0	0.7090		
	Euclidean	2027	714.44	0.8496		
Total	Aitchison	2032	26326.3	1.0000		
	Euclidean	2032	840.91	1.0000		
Period (1MA vs 2MA)	0.04	28.73	3	2025		< .001

Note. MANOVA is estimated on three CLR coordinates (clr_T1–clr_T3); clr_T4 is implied by the constant-sum constraint. Pillai's trace is reported for robustness to departures from multivariate normality and unequal covariance matrices.

Note 1. Permutations: All *p*-values are based on 4,999 permutations under a reduced model (marginal effects).

Note 2. Methodological Distinction: The Aitchison distance (calculated via centered log-ratio transformation) is the primary metric used to address the compositional nature (closure problem) of the topic data. The Euclidean distance serves as a robustness check in the raw proportional space.

Note 3. Consistency: Despite the difference in total variance explained (R^2), the significance and direction of effects remain highly consistent across both metrics, confirming that media source is the predominant driver of agenda structures.

Notes 4. Sig. level: * $p < .05$; ** $p < .01$; *** $p < .001$.

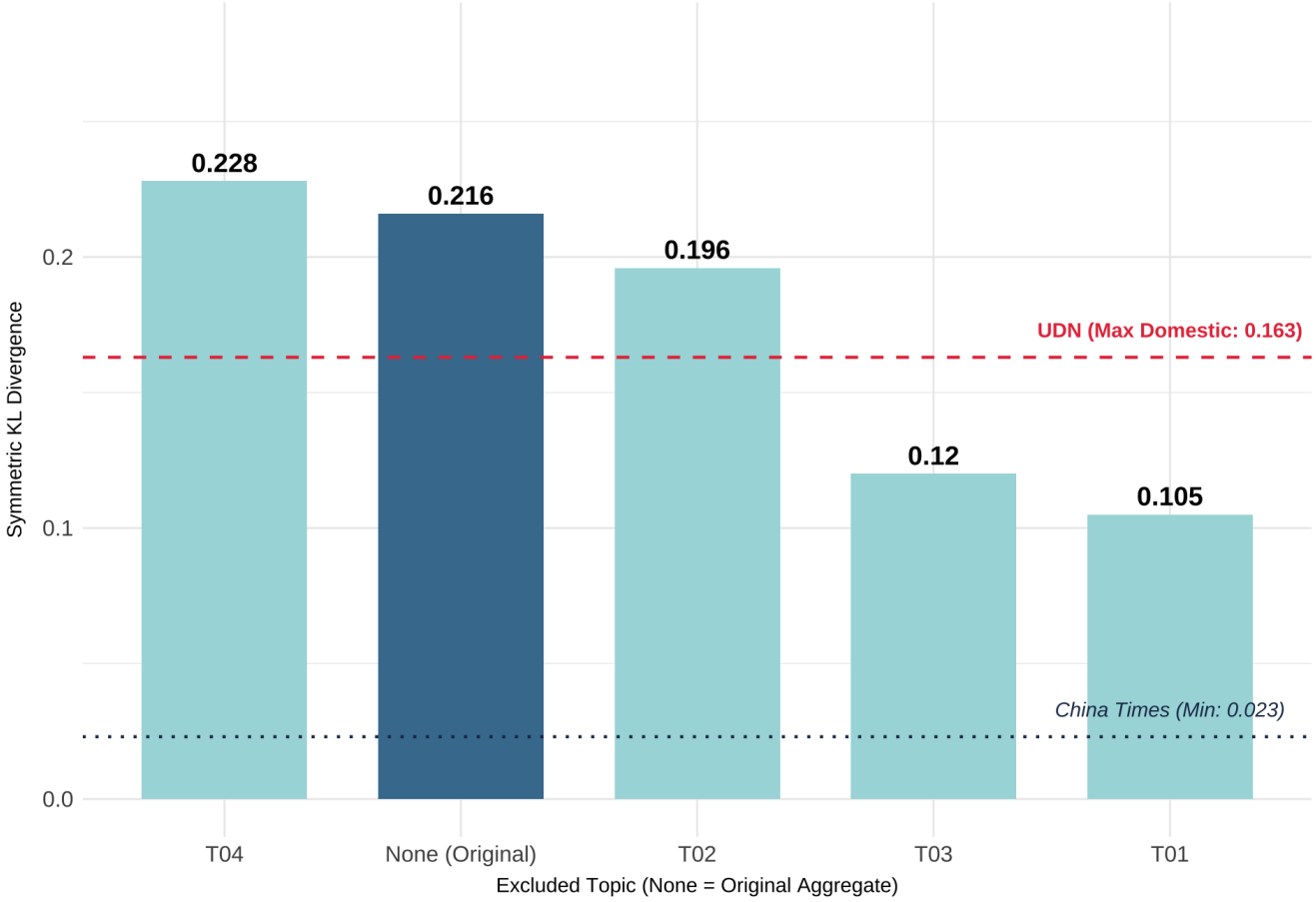
Table D. Robustness check: Leave-One-Topic-Out sensitivity analysis for the CN-HK outlets.

Excluded Topic	Symmetric KL	Original Symmetric KL (CN & HK)	Deviation from Original (%)
Topic 1	0.105	0.216	-51.4
Topic 2	0.196	0.216	-9.3
Topic 3	0.120	0.216	-44.4
Topic 4	0.228	0.216	5.6

Note 1. Benchmarking Domestic Media Strategies: The dual baselines highlight the distinct nature of external media behavior compared to domestic outlets. UDN (symm. KL = .163), representing the highest domestic volatility, serves as a benchmark for active, reactive issue-shifting within Taiwan's media market. China Times (symm. KL = .023) represents the domestic minimum, reflecting a strategy of steadfast narrative anchoring.

Note 2. Evidence of Directed Reconfiguration: While domestic outlets exhibit diverse reactive strategies, the CN-HK group's original aggregate volatility (0.216) stands as a significant outlier. Crucially, even after the most volatile driver (Topic 1) is removed, the remaining KL value (symm. KL = .105) persists at a level nearly identical to the independent baseline of the Macao-based *Jornal San Wa Ou* (symm. KL = .106). This convergence confirms that the agenda instability in CN-HK outlets is a directed reconfiguration—a purposeful, top-down systematic overhaul designed to align with external political objectives, rather than an incidental artifact of the news cycle.

Figure E. Sensitivity analysis (LOO): CN-HK outlets volatility.
Symmetric KL divergence excluding individual topics.



Note 1. This table reports the results of a leave-one-topic-out sensitivity analysis derived from Jackknife resampling (Tukey, 1958) to assess the structural stability of the KL divergence for the CN-HK group.

Note 2. Strategic Drivers. Topic 1 and Topic 3 exhibit the highest negative deviations exceeding 40%, quantifying their roles as the core engines of "directed reconfiguration."

Note 3. While domestic outlets exhibit diverse strategies—ranging from *UDN*'s active issue-shifting (symm. KL = .163) to China Times' steadfast narrative anchoring (symm. KL = .023)—the CN-HK outlets (symm. KL = .216) stands out as a significant outlier. Unlike domestic media, whose stability or volatility reflects internal editorial consistency or localized competitive responses, the extreme volatility in CN-HK outlets points to a "directed reconfiguration."

This phenomenon represents more than mere topical fluctuation; it is a purposeful, top-down overhaul of the media agenda. While domestic outlets like *UDN* react to the evolving news cycle, the CN-HK group demonstrates a strategic pivot, where the entire thematic structure is systematically dismantled and rebuilt to prioritize specific external political objectives. Even after

Table E. Recall attitudes by partisanship (row percentages).

Partisanship	Rights (0)	Vengeance (1)	Total (N)
Pan-Green	340 (83.5%)	67 (16.5%)	407 (100.00%)
Neutral	149 (47.3%)	166 (52.7%)	315 (100.00%)
Pan-Blue	58 (23.6%)	188 (76.4%)	246 (100.00%)
TPP	58 (37.4%)	97 (62.6%)	155 (100.00%)
Total	605 (53.87%)	518 (46.13%)	1,123 (100.00%)

Note. Percentages are calculated within each partisanship category. Recall attitude is coded as Rights = 0 and Vengeance = 1.

stripping away the primary strategic drivers (Topic 1) via the LOO method, the remaining volatility remains high, confirming that this directed reconfiguration is an orchestrated, systemic feature rather than a reactive or incidental occurrence.

Notes 4. Ref: Tukey JW (1958) Bias and confidence in not-quite large samples. *The Annals of Mathematical Statistics* 29(2): 614-23.

Table F. Binary logic model of recall attitudes.

Variable	Odds Ratio, exp(β)	95% CI	p-value
Intercept	0.23	[0.143, 0.357]	< .001***
Partisanship (Ref: Pan-Green)			
Pan-Blue	11.31	[7.254, 17.884]	< .001***
TPP	9.86	[6.105, 16.086]	< .001***
Neutral	4.00	[3.412, 7.367]	< .001***
National Identity (Ref: Exclusive Taiwanese)			
Dual Identity (TW/CN)	2.13	[1.534, 2.947]	< .001***
Chinese	2.67	[0.988, 8.309]	.07 > .05
Age Group (Ref: 60+)			
20s	0.37	[0.212, 0.624]	< .001***
30s	0.50	[0.303, 0.813]	< .01**
40s	0.52	[0.336, 0.801]	< .01**
50s	0.80	[0.516, 1.227]	.30 > .05
Gender (Ref: Male)			
Female	1.31		
Education (Ref: College)			
Elementary & below	1.16	[0.582, 2.311]	.67 > .05
Secondary	0.71	[0.449, 1.103]	.13 > .05
Graduate	0.90	[0.639, 1.263]	.54 > .05
Region (Ref: Northern Taiwan)			
Middle Taiwan	1.03	[0.710, 1.485]	.89 > .05
Southern Taiwan	0.85	[0.553, 1.289]	.44 > .05
Sub-Southern Taiwan	1.25	[0.834, 1.882]	.28 > .05
Model Diagnostics			
Sample Size (N)	2,033	R^2 / Adj, R^2	0.1882/ 0.1861
Residual Std. Error	1.682	F-statistics	93.55***

Survey data from TEDS2025_PAO6

Note 1. Dependent variable coded as Rights = 0 and Vengeance = 1. Percentages omitted.

Note 2. Regional Coding Classification.

- Northern Taiwan includes Taipei City, New York City, Keelung City, Yilan County, Taoyuan City, Hsinchu County, Hsinchu City, Kinmen, and Matsu.
- Central Taiwan includes Taichung City, Miaoli County, Changhua County, and Hualien County.
- Southern Taiwan includes Kaohsiung City, Pingtung County, Taitung County, and Penghu County.
- Sub-Southern Taiwan includes Yunlin County, Chiayi County, Chiayi City, and Tainan City.

Note 3. Sig. level: * $p < .05$; ** $p < .01$; *** $p < .001$.