

# Tips, Tidings, and Tech: A Comparative Analysis of Governmental Communication on Facebook During the COVID-19 Pandemic

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## 1 ENGAGEMENT IRR

Figure 1-17 shows the IRR for each page in each country. We use the x-axis to show the dependent variables(media type). Left Y-axis shows the IRR values for likes, comments, and shares for the given media type. The line chart shows the frequency of the posts on given media type on the right Y-axis of the figure.

## 2 CONTENT TYPE IN RELATION WITH COVID-19 CASES

Figure 18-33 show the country-wise data for each page. We use the stacked distribution of topical content each day for 11 months. The right y-axis shows the daily number of cases, with black dotted line plot showing representing the cases. Left y-axis shows the number of COVID-19 related messages per day on the mentioned page represented by the stacked bars. The Turquoise line represents the user engagement based on per 1000 thousand followers of the page. Engagement is aligned with left y-axis.

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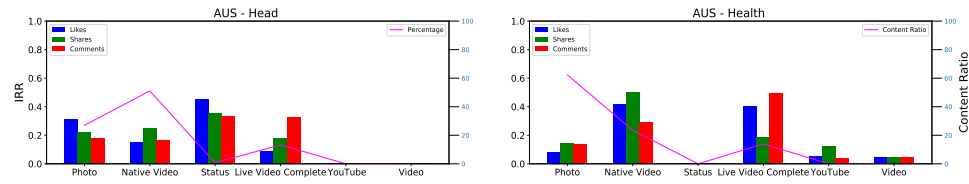


Fig. 1. Australia: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

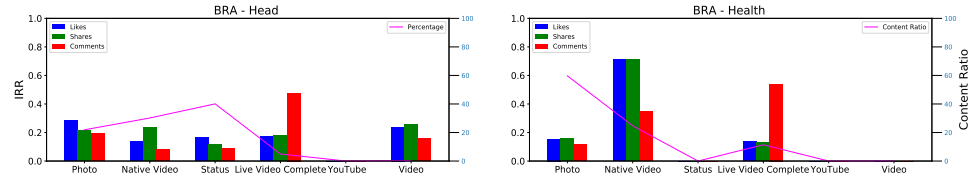


Fig. 2. Brazil: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

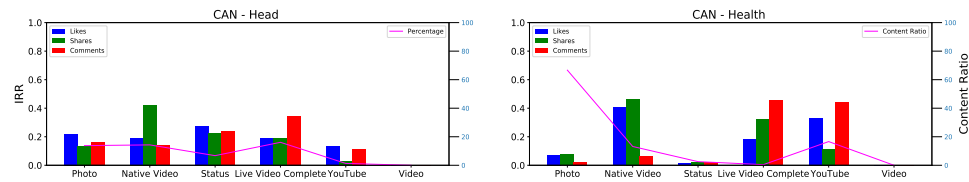


Fig. 3. Canada: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

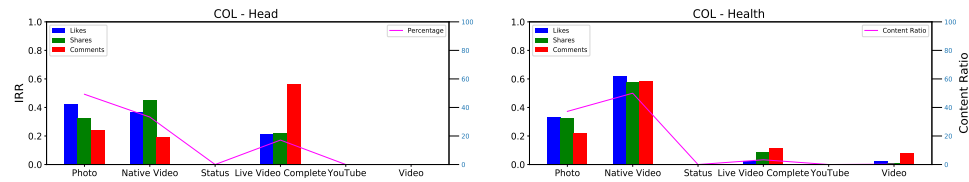


Fig. 4. Colombia: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

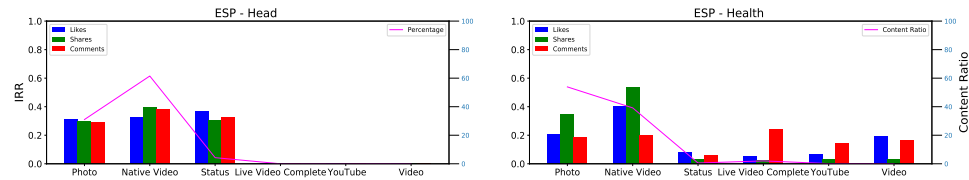


Fig. 5. Spain: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

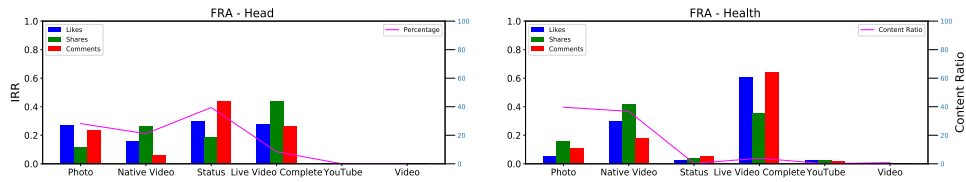


Fig. 6. France: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

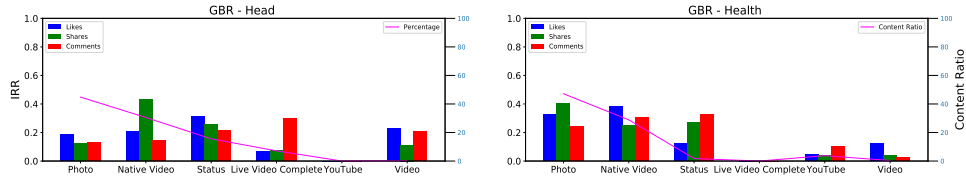


Fig. 7. UK: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

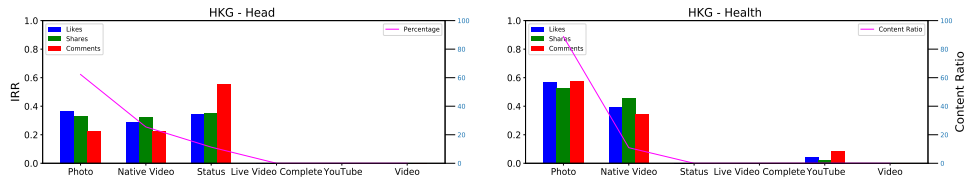


Fig. 8. Hong Kong SAR: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

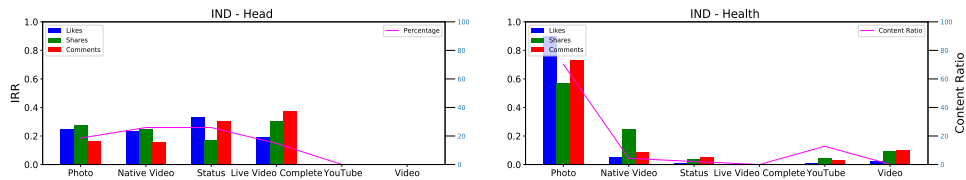


Fig. 9. India: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

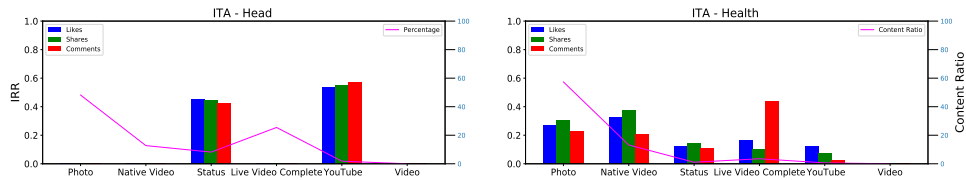


Fig. 10. Italy: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

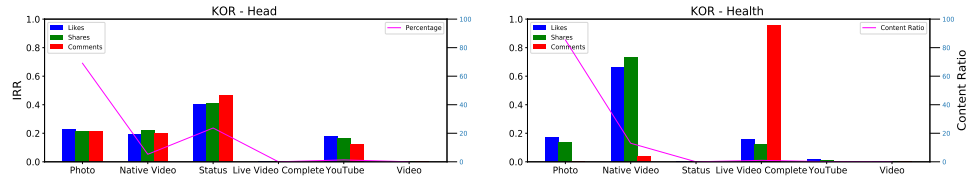


Fig. 11. South Korea: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

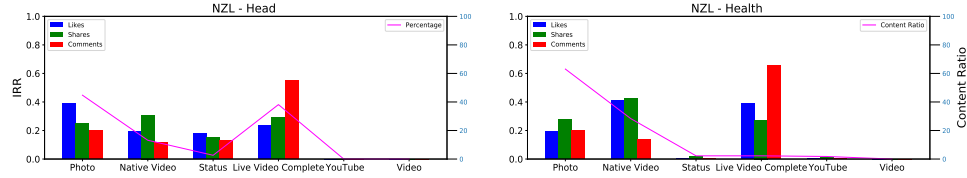


Fig. 12. New Zealand: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

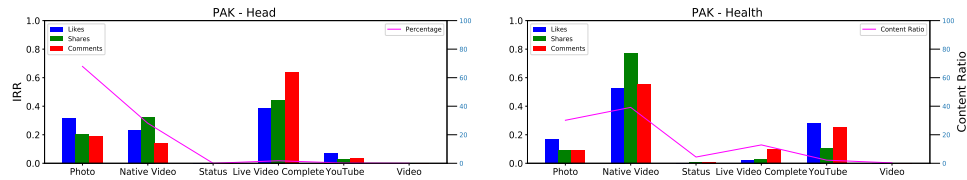


Fig. 13. Pakistan: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

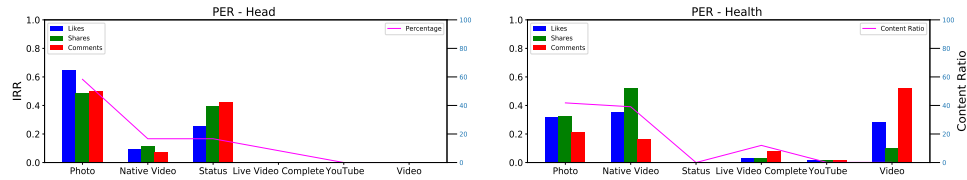


Fig. 14. Peru: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

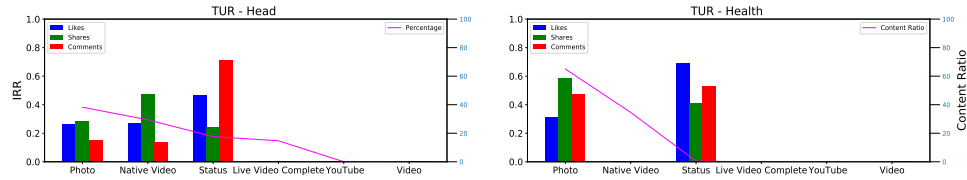


Fig. 15. Turkey: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

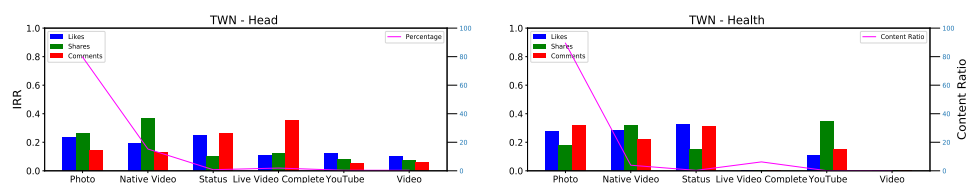


Fig. 16. Taiwan: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

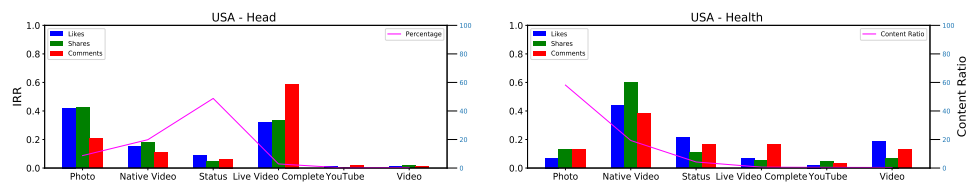


Fig. 17. USA: Normalised IRR values against the media type for country's leader and health department page. The line represent the percentage of the specific media type on the page.

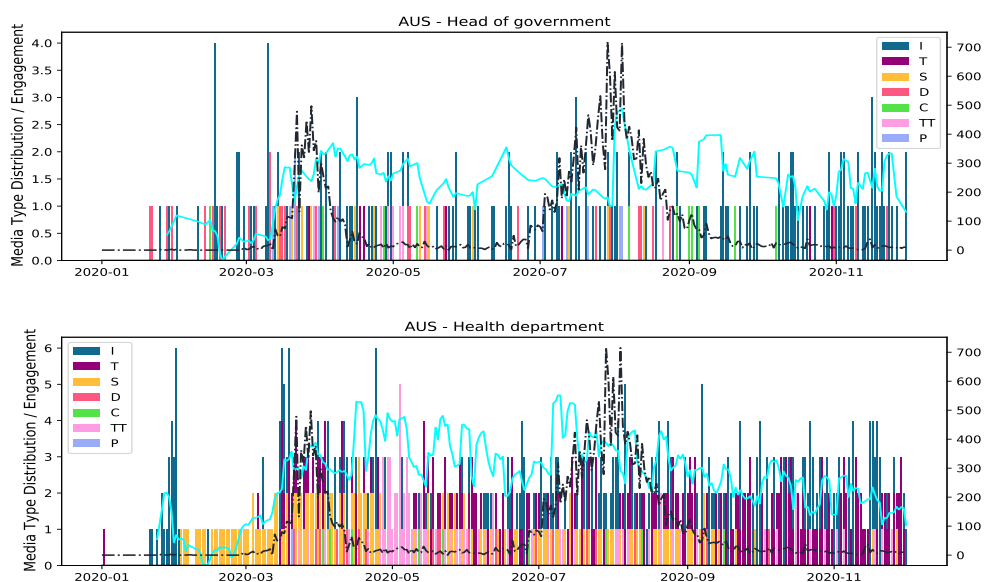


Fig. 18. Australia: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

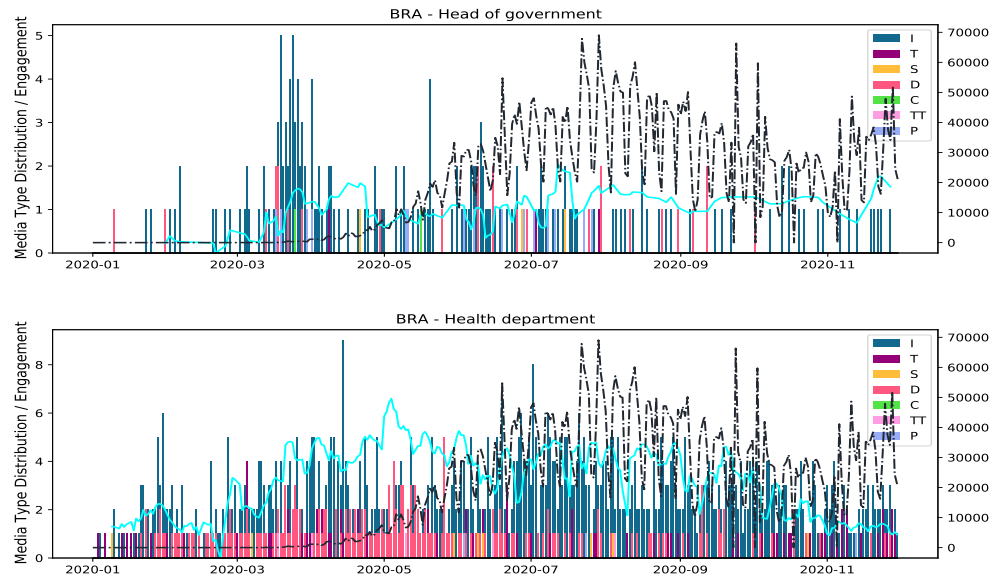


Fig. 19. Brazil: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

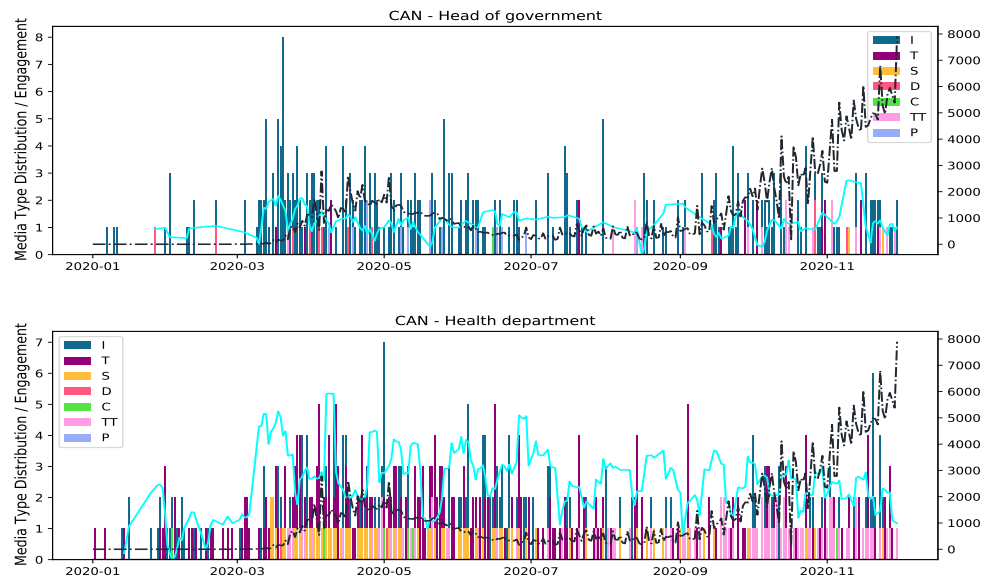


Fig. 20. Canada: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

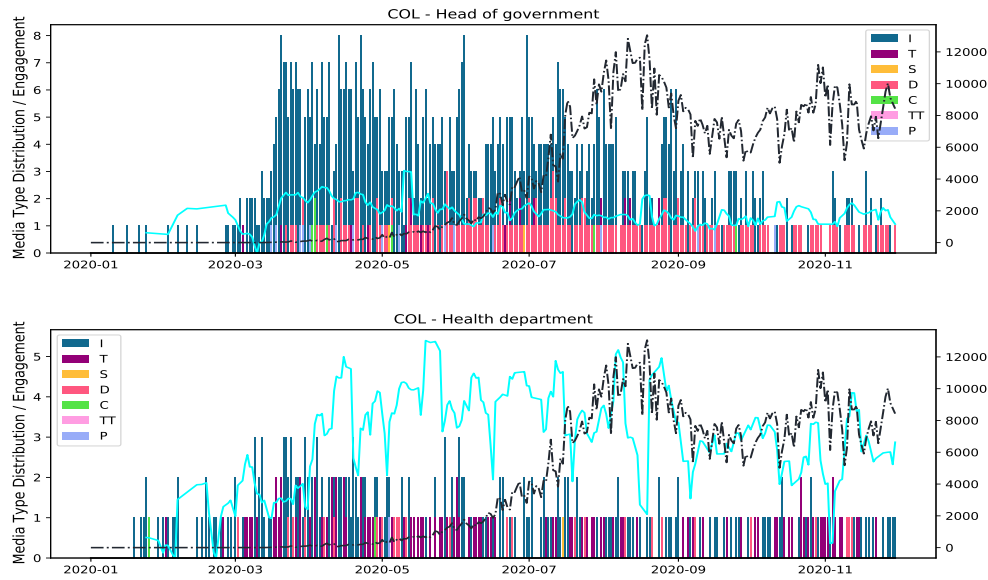


Fig. 21. Colombia: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

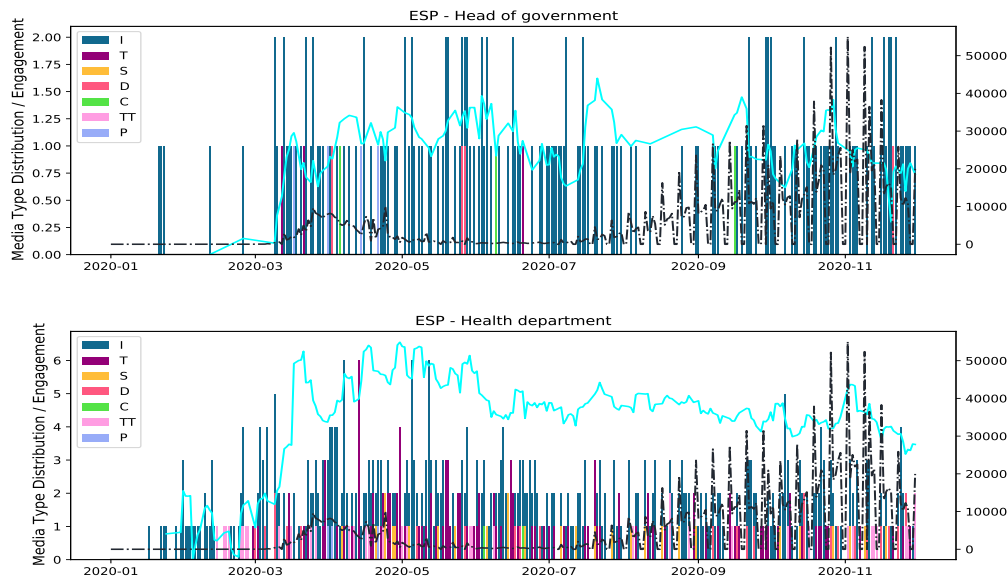


Fig. 22. Spain: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

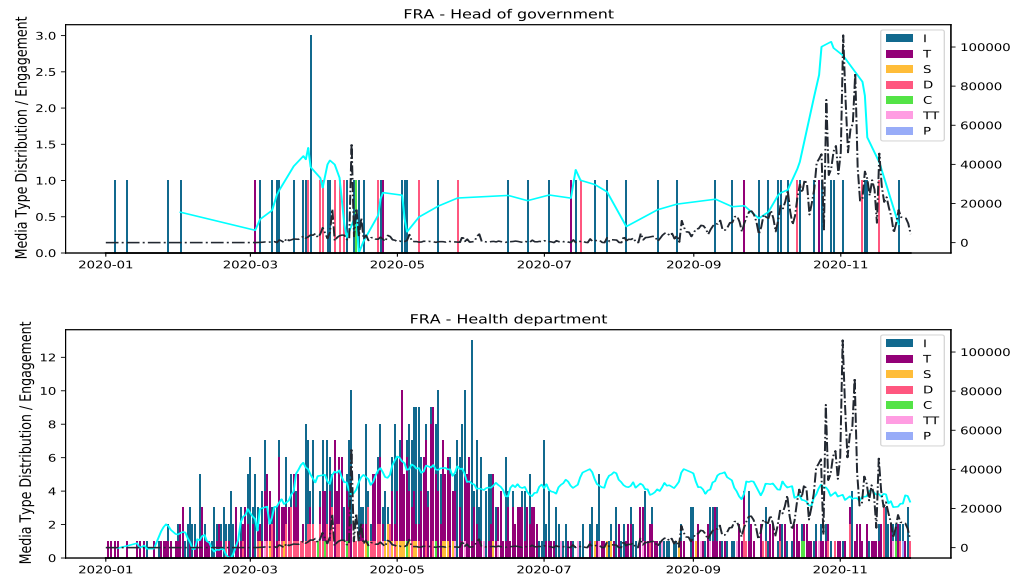


Fig. 23. France: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

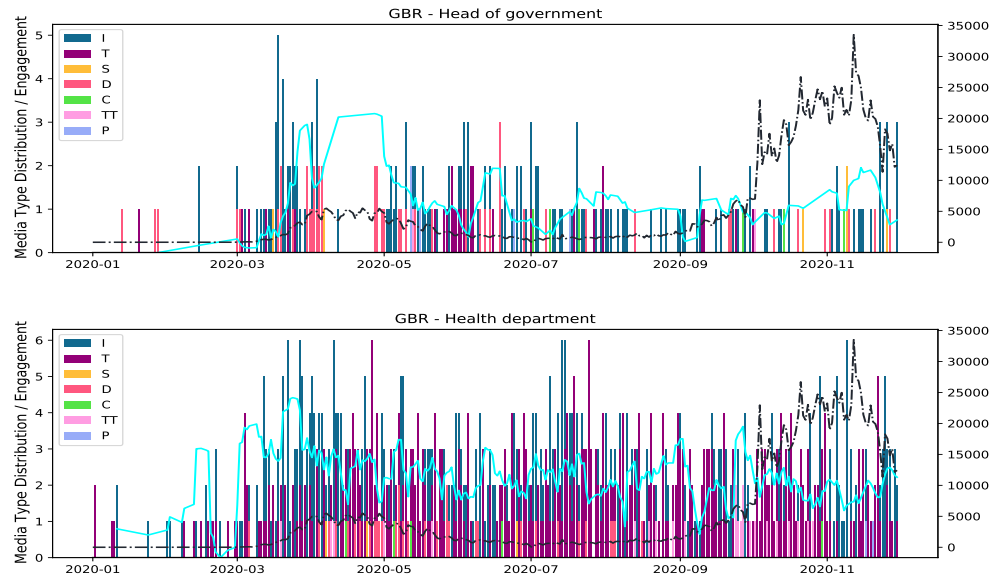


Fig. 24. UK: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).



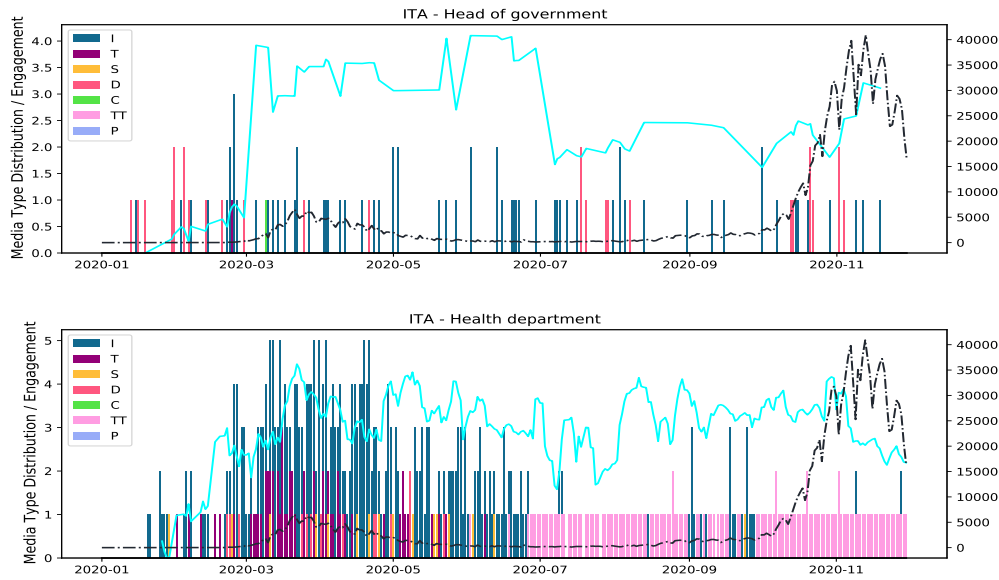


Fig. 25. Italy: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

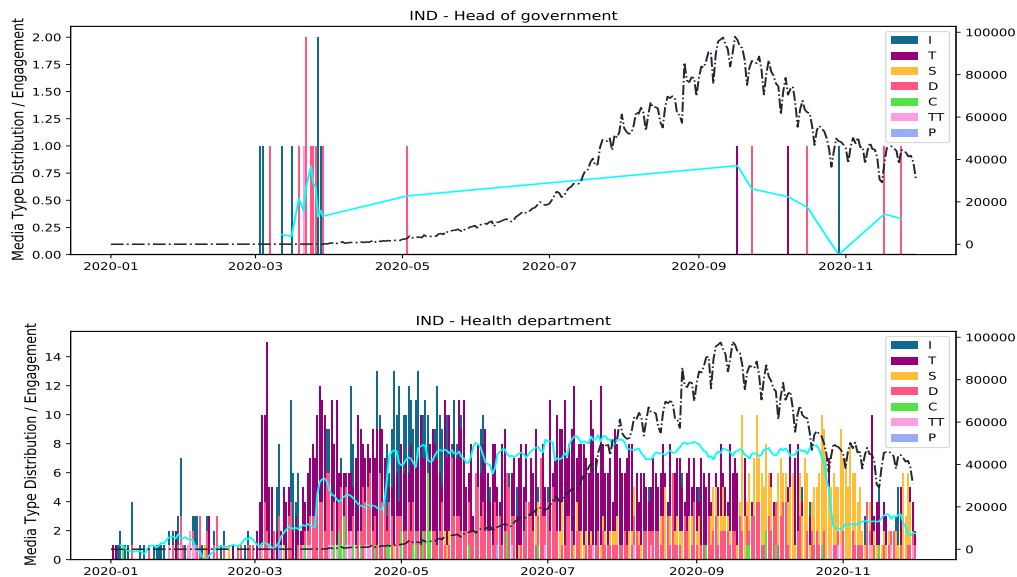


Fig. 26. India: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

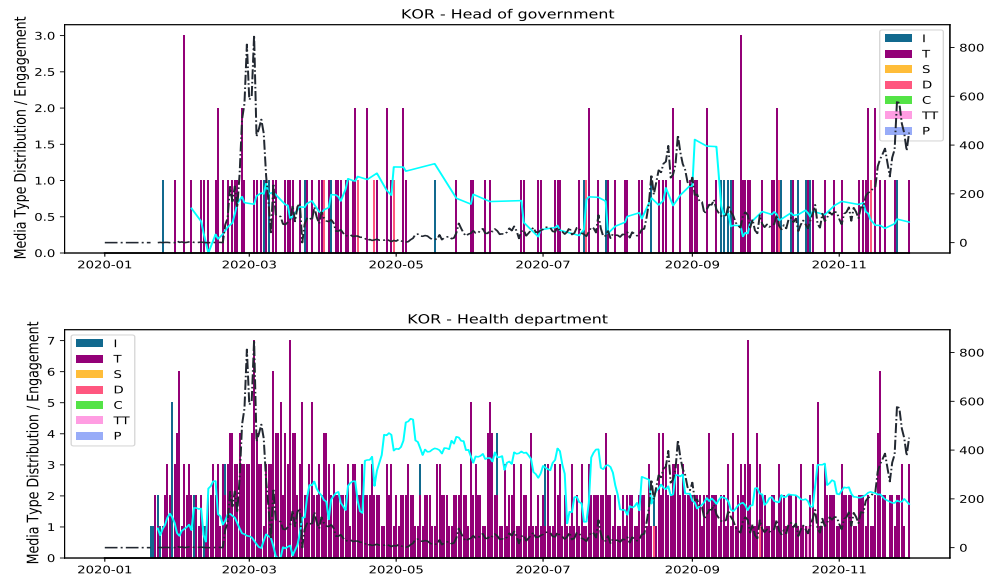


Fig. 27. South Korea: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

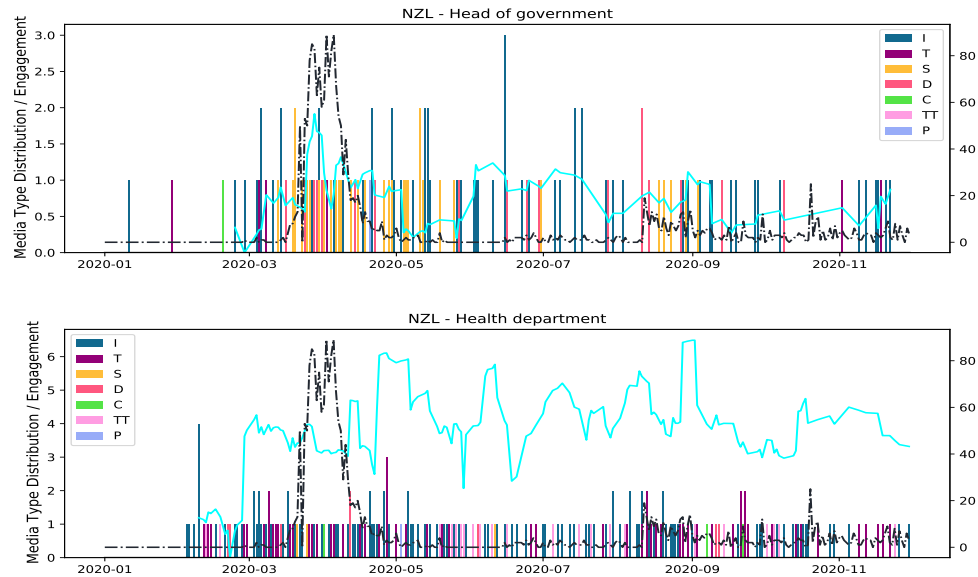


Fig. 28. New Zealand: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

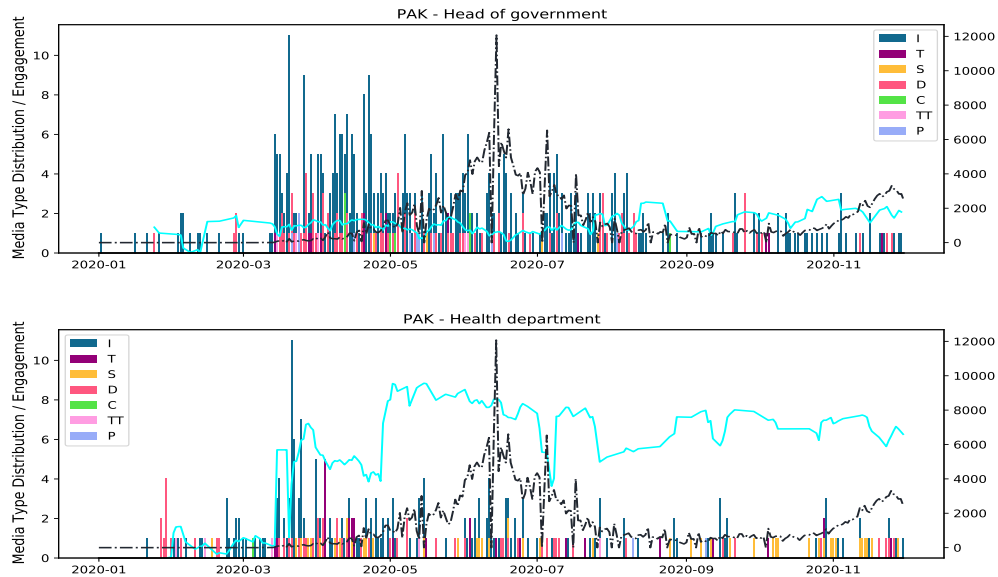


Fig. 29. Pakistan: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

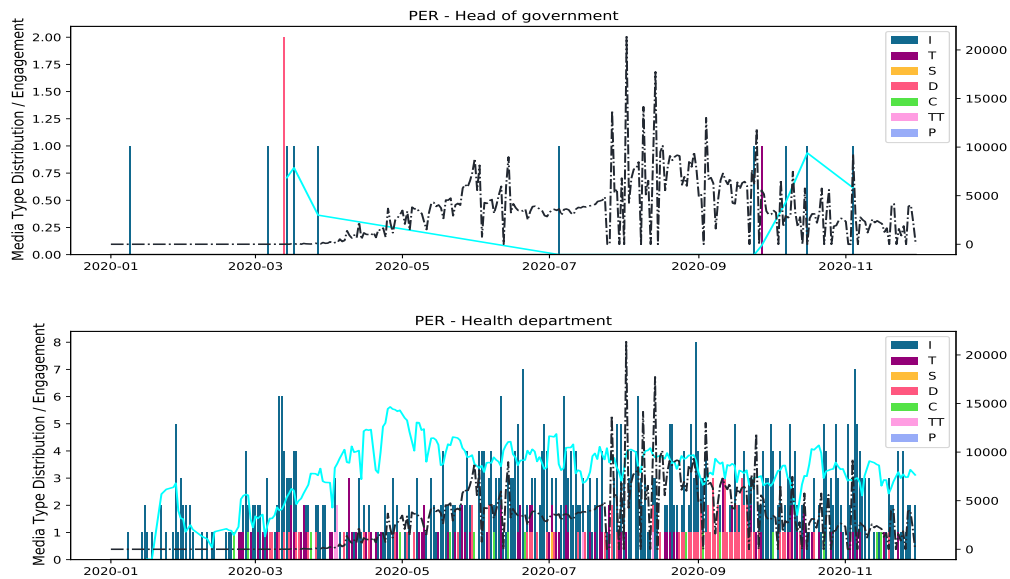


Fig. 30. Peru: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

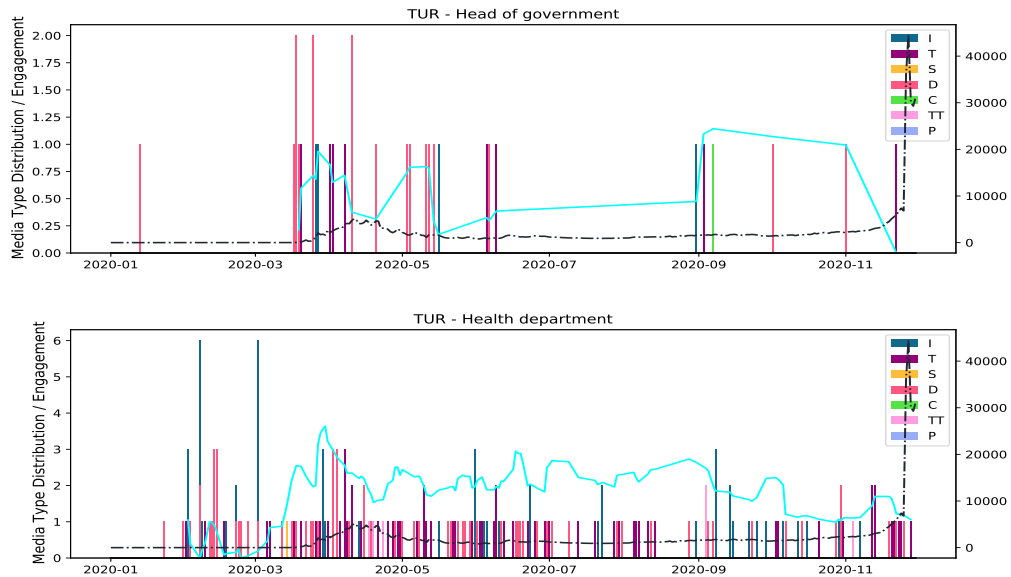


Fig. 31. Turkey: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

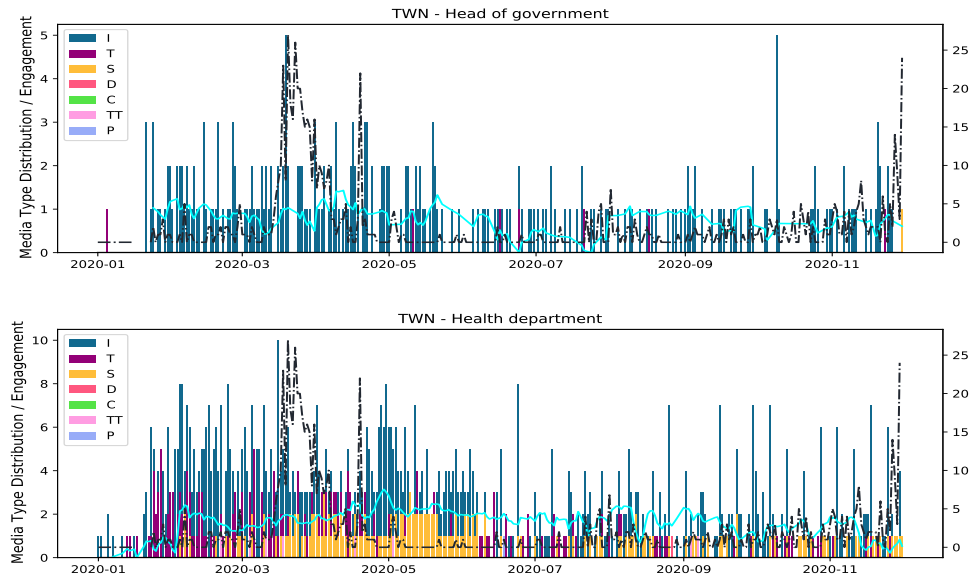


Fig. 32. Taiwan: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

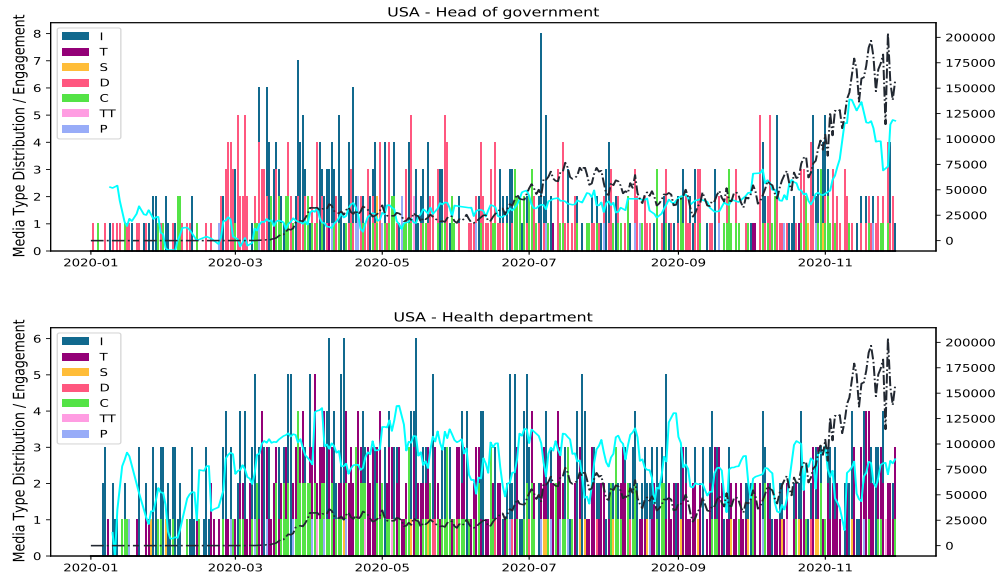


Fig. 33. USA: per day content distribution (number of posts (left-y axis)) along with the COVID-19 spread (Black dotted line, right y-axis) and normalised average engagements score for all per day (Turquoise left y-axis).

	Leader Page		Health Page	
Country	correlation	p	correlation	p
AUS	0.76	***	0.88	***
BRA	0.97	***	0.96	***
CAN	0.95	***	0.97	***
COL	0.99	***	0.62	***
ESP	0.93	***	0.76	***
FRA	0.47	***	0.85	***
GBR	0.91	***	0.51	***
HKG	0.91	***	0.81	***
IND	0.90	***	0.36	***
ITA	0.54	***	0.72	***
KOR	0.98	***	0.99	***
NZL	0.82	***	0.33	***
PAK	0.95	***	0.33	***
PER	0.16		0.92	***
TUR	0.70	***	0.76	***
TWN	0.67	***	0.83	***
USA	0.65	***	0.89	***

Table 1. Pearson Correlation between the increase in number of users who like the page with the frequency of COVID-19 related posts by the page. We calculate it individually for each page in each country. All countries have positive correlation, with mostly above 0.5. Pakistan and New Zealand have lower correlations for health related pages. That can be explained by the massive increase in number of users on that page.