**Appendix for the manuscript**

***News from Messenger? A Cross-National Comparative Study of News Media’s Audience Engagement Strategies via Facebook Messenger***

Updated: 24-Aug-2022

Table A1

A list of the 38 countries/regions included in the study and the country-level statistics

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Country (region)** | **IDI** | **Fb %** | **Media system** | **Press freedom** |
| Argentina | 6.79 | 66.50% | Transitional democracies | 28.78 |
| Australia | 8.24 | 68.60% | The liberal model | 20.21 |
| Austria | 8.02 | 49.60% | The democratic corporatist Model | 15.78 |
| Belgium | 7.81 | 64.10% | The polarized pluralist model | 12.57 |
| Brazil | 6.12 | 69.40% | Transitional democracies | 33.92 |
| Bulgaria | 6.86 | 55.50% | The polarized pluralist model | 35.06 |
| Canada | 7.77 | 66.90% | The liberal model | 15.29 |
| Chile | 6.57 | 80.70% | Transitional democracies | 27.31 |
| Croatia | 7.24 | 50.60% | The polarized pluralist model | 28.51 |
| Czech Republic | 7.16 | 44.80% | The democratic corporatist Model | 23.57 |
| Denmark | 8.71 | 70.20% | The democratic corporatist Model | 8.13 |
| Finland | 7.88 | 48.50% | The democratic corporatist Model | 7.93 |
| France | 8.24 | 58.80% | The polarized pluralist model | 17.49 |
| Germany | 8.39 | 44.90% | The democratic corporatist Model | 10.34 |
| Greece | 7.23 | 44.90% | The polarized pluralist model | 28.8 |
| Hong Kong SAR, China | 8.61 | 74.40% | Transitional democracies | 29.6 |
| Hungary | 6.93 | 62.90% | Transitional democracies | 30.84 |
| Ireland | 8.02 | 65.00% | The liberal model | 12.6 |
| Italy | 7.04 | 57.80% | The polarized pluralist model | 23.69 |
| Japan | 8.43 | 37.80% | The liberal model | 28.86 |
| Malaysia | 6.38 | 82.50% | Transitional democracies | 33.12 |
| Mexico | 5.16 | 70.80% | Transitional democracies | 41.36 |
| Netherlands | 8.49 | 64.70% | The democratic corporatist Model | 9.96 |
| Norway | 8.47 | 63.50% | The democratic corporatist Model | 7.84 |
| Poland | 6.89 | 49.10% | Transitional democracies | 28.65 |
| Portugal | 7.13 | 67.40% | The polarized pluralist model | 11.83 |
| Romania | 6.48 | 56.40% | The polarized pluralist model | 25.91 |
| Singapore | 8.05 | 77.20% | Hybrid model | 55.23 |
| Slovakia | 7.06 | 49.70% | The democratic corporatist Model | 22.67 |
| South Africa | 4.96 | 41.00% | Hybrid model | 22.41 |
| South Korea | 8.85 | 83.80% | The liberal model | 23.7 |
| Spain | 7.79 | 60.80% | The polarized pluralist model | 18.48 |
| Sweden | 8.41 | 70.50% | The democratic corporatist Model | 9.25 |
| Switzerland | 8.74 | 43.00% | The democratic corporatist Model | 10.62 |
| Taiwan | 6.04 | 80.80% | The liberal model | 23.76 |
| Turkey | 6.08 | 63.67% | The polarized pluralist model | 45.46 |
| UK | 8.65 | 69.20% | The liberal model | 17.41 |
| US | 8.18 | 90.30% | The liberal model | 23.85 |

Data sources:

* IDI: https://www.itu.int/net4/ITU-D/idi/2017/index.html#idi2017rank-tab and https://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2009/MIS2009\_w5.pdf
* Facebook penetration rate: https://www.internetworldstats.com/facebook.htm
* Press freedom index: https://rsf.org/en/ranking\_table

Table A2

Case selection and supporting references in each country/region (n = 365)

|  |  |  |  |
| --- | --- | --- | --- |
| **Country (region)** | **Media organizations selected** | **Media type** | **References** |
| Argentina | Clarín | Print | (Márquez-Ramírez et al., 2020) |
| La Nación | Print |
| Página/12 | Print |
| Radio Mitre | Radio | (Newman et al., 2019) |
| TN | Television |
| Telefe | Television |
| Canal 13 | Television |
| C5N | Television |
| América TV | Television |
| A24 | Television |
| Crónica TV | Television |
| Canal 9 | Television |
| TV pública | Television |
| Canal 26 | Television |
| Australia | The Australian | Print | (Newman et al., 2019) |
| The Australian Financial Review | Print |
| ABC News | Television |
| Austria | Der Standard | Print | (Kinnebrock, 2012) |
| Kronen Zeitung | Print |
| Kleine Zeitung | Print |
| ORF | Radio | (Newman et al., 2019) |
| ORF1 | Television | (Esser et al., 2012) |
| ORF2 | Television |
| ATV | Television |
| Belgium | L’Avenir | Print | (Nozal Cantarero et al., 2017) |
| Le Soir | Print |
| Qmusic | Radio | (Newman et al., 2019) |
| Nostalgie | Radio |
| Joe FM | Radio |
| BRT1 | Television | (Esser et al., 2012) |
| BRT2 | Television |
| VTM | Television |
| Brazil | O Globo | Print | (Nozal Cantarero et al., 2017; Márquez-Ramírez et al., 2020) |
| Estadao | Print |
| Zero Hora | Print | (Márquez-Ramírez et al., 2020) |
| Folha de S. Paulo | Print |
| BandNews | Radio | (Newman et al., 2019) |
| Globo News | Television |
| Record News | Television |
| Jornal do SBT | Television |
| BandNews | Television |
| RedeTV! | Television |
| TV Brasil | Television |
| Bulgaria | 24 Chasa | Print | (Newman et al., 2019) |
| Telegraf | Print |
| Trud | Print |
| Sega | Print |
| BNR | Radio |
| Darik | Radio |
| NovaTV | Television |
| BTV | Television |
| BNT | Television |
| Bulgaria On Air | Television |
| TV Evropa | Television |
| Kanal 3 | Television |
| Canada | Toronto Star | Print | (Nozal Cantarero et al., 2017) |
| La Presse | Print |
| CBC | Radio | (Newman et al., 2019) |
| CTV News | Television |
| Global News | Television |
| CityTV | Television |
| Chile | El Mercurio | Print | (Márquez-Ramírez et al., 2020) |
| La Tercera | Print |
| Las Ultimas Noticias | Print |
| La Cuarta | Print |
| MEGA News | Television | (Newman et al., 2019) |
| Canal 13 | Television |
| Chilevisión | Television |
| TVN | Television |
| Bío Bío Chile | Television |
| Croatia | 24sata | Print | (Newman et al., 2019) |
| Jutarnji list | Print |
| Večernji list | Print |
| Antena radio | Print |
| Otvoreni radio | Radio |
| Narodni radio | Radio |
| Slobodna Dalmacija | Radio |
| HTV & HR | Television |
| Czech Republic | Mlada Fronta DNES | Print | (Newman et al., 2019) |
| Blesk | Print |
| Denik | Print |
| Lidove noviny | Print |
| Hospodarske noviny | Print |
| Czech Radio | Radio |
| Radio Impuls | Radio |
| Frekvence 1 | Radio |
| Evropa 2 | Radio |
| CT24 | Television |
| TV Barrandov | Television |
| Televize Seznam | Television |
| Denmark | B.T. | Print | (Russi et al., 2014) |
| Børsen | Print |
| Ekstra Bladet | Print |
| Jyllands-Posten | Print |
| Politiken | Print |
| MetroXpress | Print |
| Radio 24syv | Radio | (Newman et al., 2019) |
| TV2 | Television | (Deidre et al., 2013) |
| 24NORDJYSKE | Television |
| 24 Sjællandske | Television |
| Finland | Helsingin Sanomat | Print | (Grönlund & Björkroth, 2011) |
| Ilta-Sanomat | Print |
| Iltalehti | Print |
| Yle News | Television | (Newman et al., 2019) |
| MTV3 | Television |
| France | Le Figaro | Print | (Alarcón, 2010) |
| Le Monde | Print |
| France Inter | Radio | (Bonini et al., 2014) |
| Le Mouv’ | Radio |
| TF1 | Television | (Newman et al., 2019) |
| BFM TV | Television |
| France Télévisions | Television |
| M6 | Television |
| LCI | Television | (Newman et al., 2019) |
| Germany | Suddeutsche Zeitung | Print | (Nozal Cantarero et al., 2017; Márquez-Ramírez et al., 2020) |
| Frankfurter Allgemeine Zeitung | Print |
| BILD-Zeitung | Print | (Márquez-Ramírez et al., 2020) |
| 1Live | Radio | (Bonini et al., 2014) |
| Radio Fritz | Radio |
| NDR Kultur | Radio |
| ARD | Television | (Esser et al., 2012) |
| ZDF | Television |
| RTL | Television |
| SAT.1 | Television |
| Greece | Kathimerini | Print | (Márquez-Ramírez et al., 2020) |
| Nea | Print |
| Eleytheros Typos | Print |
| SKAI | Radio | (Newman et al., 2019) |
| ERT | Radio |
| Real News | Radio |
| ET1 | Television | (Esser et al., 2012) |
| ET2 | Television |
| Mega | Television |
| Antenna | Television |
| Hong Kong SAR, China | Ta Kung Pao | Print | (Márquez-Ramírez et al., 2020) |
| Ming Pao Daily | Print |
| Apple Daily | Print |
| AM730 | Radio | (Newman et al., 2019) |
| RTHK | Radio |
| TVB | Television |
| RTHK | Television |
| NowTV | Television |
| Hungary | Blikk | Print | (Márquez-Ramírez et al., 2020) |
| Bors | Print |
| Magyar Nemzet | Print |
| Népszabadság | Print |
| Magyar Rádió | Radio | (Newman et al., 2019) |
| Rádió 1 | Radio |
| Hir TV | Television | (Deidre et al., 2013) |
| Echo TV | Television |
| Ireland | Irish Independent | Print | (Márquez-Ramírez et al., 2020) |
| Daily Star | Print |
| RTÉ (Radio) | Radio | (Newman et al., 2019) |
| Today FM | Radio |
| Newstalk | Radio |
| RTÉ One (TV) | Television | (Deidre et al., 2013) |
| Italy | Corriere della Sera | Print | (Nozal Cantarero et al., 2017) |
| Repubblica | Print |
| Radio2 Rai | Radio | (Bonini et al., 2014) |
| Radio3 Rai | Radio |
| RAI1 | Television | (Esser et al., 2012) |
| RAI2 | Television |
| Canale5 | Television |
| Rete4 | Television |
| Japan | Yomiuri Shimbun | Print | (Newman et al., 2019) |
| Asahi Shimbun | Print |
| Nikkei | Print |
| Mainichi Shimbun | Print |
| Sankei Shimbun | Print |
| Weekly Bunshun | Print |
| NHK | Television |
| Nippon TV | Television |
| Asahi TV | Television |
| Fuji TV | Television |
| TBS | Television |
| TV Tokyo | Television |
| Malaysia | Berita Harian | Print | (Márquez-Ramírez et al., 2020) |
| Harian Metro | Print |
| New Straits Times | Print |
| The Sun | Print |
| TV3 | Television | (Newman et al., 2019) |
| Astro Awani | Television |
| NTV7 | Television |
| RTM | Television |
| TV9 | Television |
| 8TV | Television |
| Mexico | Reforma | Print | (Márquez-Ramírez et al., 2020) |
| La Jornada | Print |
| La Prensa | Print |
| Radio Fórmula | Radio | (Newman et al., 2019) |
| TV Azteca | Television |
| Televisa | Television |
| Milenio Televisión | Television |
| Imagen Televisión | Television |
| Netherlands | NRC Handelsblad | Print | (Berkers et al., 2011) |
| de Volkskrant | Print |
| NOS | Radio | (Newman et al., 2019) |
| BNR | Radio |
| Ned1 | Television | (Esser et al., 2012) |
| Ned2 | Television |
| RTL4 | Television |
| SBS6 | Television |
| Norway | Aftenposten | Print | (Graedler, 2014) |
| VG | Print |
| NRK | Radio | (Newman et al., 2019) |
| P4 | Radio |
| Radio Norge | Radio |
| NRK1 | Television | (Esser et al., 2012) |
| NRK2 | Television |
| TV2 | Television |
| TVNorge | Television |
| Poland | Gazeta Wyborcza | Print | (Márquez-Ramírez et al., 2020) |
| Rzeczpospolita | Print |
| Nasz Dziennik | Print |
| Fakt | Print |
| Radio1 Polish Radio | Radio | (Bonini et al., 2014) |
| Polskie Radio SA Programme 3 | Radio |
| Radio 3 Polish Radio | Radio |
| TVP Info | Television | (Deidre et al., 2013) |
| TVN24 | Television |
| TTV | Television |
| Polsat news | Television |
| Portugal | Correio da Manhá | Print | (Nozal Cantarero et al., 2017) |
| Journal de noticias | Print |
| RFM | Radio | (Newman et al., 2019) |
| TSF | Radio |
| Rádio Renascença | Radio |
| RTP1 | Television | (Esser et al., 2012) |
| RTP2 | Television |
| SIC | Television |
| TV1 | Television |
| Romania | Adevărul | Print | (Newman et al., 2019) |
| Libertatea | Print |
| Radio Europa FM | Radio |
| Radio Romania | Radio |
| Radio ZU | Radio |
| Pro TV | Television |
| Digi24 | Television |
| Antena 1 | Television |
| Realitatea TV | Television |
| TVR | Television |
| Antena 3 | Television |
| Romania TV | Television |
| B1TV | Television |
| Prima TV | Television |
| Kanal D | Television |
| Singapore | The Straits Times | Print | (Newman et al., 2019) |
| The New Paper | Print |
| Lianhe Zaobao | Print |
| Lianhe Wanbao | Print |
| Shin Min Daily | Print |
| Berita Harian | Print |
| MediaCorp Radio | Radio |
| MediaCorp Channel News Asia | Television |
| MediaCorp Channel 8 | Television |
| MediaCorp Channel 5 | Television |
| MediaCorp Suria Berita | Television |
| MediaCorp Tamil Seithi | Television |
| Slovakia | Nový Čas | Print | (Newman et al., 2019) |
| SME | Print |
| Plus 7 dní | Print |
| Pravda | Print |
| Plus Jeden Deň | Print |
| Hospodárske noviny | Print |
| Rádio Expres | Radio |
| Rádio Vlna | Radio |
| Rádio Jemné | Radio |
| Rádio Europa 2 | Radio |
| TV Markíza | Television |
| TV JOJ | Television |
| RTVS | Television |
| TA3 | Television |
| South Africa | The Sunday Times | Print | (Newman et al., 2019) |
| Daily Sun | Print |
| The Citizen | Print |
| City Press | Print |
| The Star | Print |
| SAFM | Radio |
| SABC Radio | Radio |
| 702/Cape Talk | Radio |
| SABC TV | Television |
| eNCA | Television |
| CNN | Television |
| Sowetan | Television |
| South Korea | Chosun Ilbo | Print | (Newman et al., 2019) |
| Joongang Ilbo | Print |
| Dong-a Ilbo | Print |
| Hankyoreh Shinmun | Print |
| Maeil Business Newspaper | Print |
| Kyunghyang Shinmun | Print |
| JTBC | Television |
| KBS | Television |
| YTN | Television |
| SBS | Television |
| MBC | Television |
| Yonhap TV | Television |
| MBN | Television |
| TV Chosun | Television |
| Channel A | Television |
| Spain | El País | Print | (Nozal Cantarero et al., 2017; Márquez-Ramírez et al., 2020) |
| El Mundo | Print |
| La Razón | Print | (Márquez-Ramírez et al., 2020) |
| ABC | Print |
| Radio Nacional de España | Radio | (Bonini et al., 2014) |
| Radio 3 | Radio |
| Catalunya Ràdio | Radio |
| TVE1 | Television | (Esser et al., 2012) |
| TVE2 | Television |
| Antena3 | Television |
| Tele5 | Television |
| Sweden | Dagens Nyheter | Print | (De Cock et al., 2018) |
| Aftonbladet | Print |
| Sveriges Radio P3 | Radio | (Bonini et al., 2014) |
| Sveriges Radio P4 | Radio |
| SVT1 | Television | (Esser et al., 2012) |
| SVT2 | Television |
| TV3 | Television |
| TV4 | Television |
| Switzerland | Neue Zurcher Zeitung | Print | (Nozal Cantarero et al., 2017; Márquez-Ramírez et al., 2020) |
| 24 heures | Print | (Nozal Cantarero et al., 2017) |
| Blick | Print | (Márquez-Ramírez et al., 2020) |
| Le Temps | Print |
| Le Matin | Print |
| Corriere del Ticino | Print |
| RTS | Radio | (Newman et al., 2019) |
| SF1 | Television | (Esser et al., 2012) |
| SF2 | Television |
| TeleZüri | Television |
| TeleBärn | Television |
| Taiwan | Liberty Times | Print | (Newman et al., 2019) |
| China Times | Print |
| TVBS | Print |
| Chung Tien | Television |
| Next TV | Television |
| Taiwan Television | Television |
| Turkey | Sözcü | Print | (Newman et al., 2019) |
| Cumhuriyet | Print |
| Fox TV | Television |
| CNN Türk | Television |
| NTV | Television |
| TRT | Television |
| Kanal D | Television |
| ATV | Television |
| Habertürk TV | Television |
| Star TV | Television |
| Show TV | Television |
| Ahaber | Television |
| UK | The Sun | Print | (Nozal Cantarero et al., 2017) |
| Daily Telegraph | Print |
| BBC Radio 1 | Radio | (Bonini et al., 2014) |
| BBC Radio 4 | Radio |
| BBC Radio 5 | Radio |
| BBC1 | Television | (Esser et al., 2012) |
| BBC2 | Television |
| ITV1 | Television |
| C4 | Television |
| US | The New York Times | Print | (Nozal Cantarero et al., 2017; Márquez-Ramírez et al., 2020) |
| USA Today | Print |
| Washington Post | Print | (Márquez-Ramírez et al., 2020) |
| Los Angeles Times | Print |
| Wall Street Journal | Print |
| NPR | Radio | (Pew Research Center, 2016) |
| Fox News | Television |
| CNN | Television |
| MSNBC/NBC | Television |

References for the case selection reported in Table A2

Alarcón, A. V. M. (2010). Media representation of the European Union: Comparing newspaper coverage in France, Spain and the United Kingdom. *International Journal of Communication*, *4*(18), 398-415.

Berkers, P., Janssen, S., & Verboord, M. (2011). Globalization and ethnic diversity in Western newspaper coverage of literary authors: Comparing developments in France, Germany, the Netherlands, and the United States, 1955 to 2005. *American Behavioral Scientist*, *55*(5), 624-641. https://doi.org/10.1177/0002764211398083

Bonini, T., Fesneau, E., Perez, J., Luthje, C., Jedrzejewski, S., Pedroia, A., ... & Stiernstedt, F. (2014). Radio formats and social media use in Europe–28 case studies of public service practice. *Radio Journal: International Studies in Broadcast & Audio Media*, *12*(1-2), 89-107. https://doi.org/10.1386/rjao.12.1-2.89\_1

De Cock, R., Mertens, S., Sundin, E., Lams, L., Mistiaen, V., Joris, W., & d’Haenens, L. (2018). Refugees in the news: Comparing Belgian and Swedish newspaper coverage of the European refugee situation during summer 2015. *Communications*, *43*(3), 301-323. https://doi.org/10.1515/commun-2018-0012

Deidre, K., Pellicanò, F., & Schneeberger, A. (2013, October). Television news channels in Europe: Based on a report prepared by the European Audiovisual Observatory for the European Commission—DG COMM. http://www.obs.coe.int/documents/205595/264629/ European+news+Market+2013+FINAL.pdf/116afdf3-758b-4572-af0f-61297651ae80

Esser, F., De Vreese, C. H., Strömbäck, J., Van Aelst, P., Aalberg, T., Stanyer, J., ... & Reinemann, C. (2012). Political information opportunities in Europe: A longitudinal and comparative study of thirteen television systems. *The International Journal of Press/Politics*, *17*(3), 247-274. https://doi.org/10.1177/1940161212442956

Graedler, A. L. (2014). Attitudes towards English in Norway: A corpus-based study of attitudinal expressions in newspaper discourse. *Multilingua-Journal of Cross-Cultural and Interlanguage Communication*, *33*(3-4), 291-312. https://doi.org/10.1515/multi-2014-0014

Grönlund, M., & Björkroth, T. (2011). Newspaper market concentration, competitive pressure and financial performance: The case of Finland. *Journal of Media Business Studies*, *8*(3), 19-50. https://doi.org/10.1080/16522354.2011.11073525

Kinnebrock, S. (2012). Puzzling gender differently? Acomparative study of newspaper coverage in Austria, Germany and Switzerland. *Interactions: Studies in Communication & Culture*, *2*(3), 197-208. https://doi.org/10.1386/iscc.2.3.197\_1

Márquez-Ramírez, M., Mellado, C., Humanes, M. L., Amado, A., Beck, D., Davydov, S., ... & Wang, H. (2020). Detached or interventionist? Comparing the performance of watchdog journalism in transitional, advanced and non-democratic countries. *The International Journal of Press/Politics*, *25*(1), 53-75. https://doi.org/10.1177/1940161219872155

Newman, N., Fletcher, R., Kalogeropoulos, A., & Nielsen, R. K. (2019). *Reuters institute digital news report 2019*. Reuters Institute fort he Study of Journalism. https://reutersinstitute.politics.ox.ac.uk/sites/default/files/inline-files/DNR\_2019\_FINAL.pdf

Nozal Cantarero, T., González-Neira, A., & Valentini, E. (2020). Newspaper apps for tablets and smartphones in different media systems: A comparative analysis. *Journalism, 21*(9), 1264–1282. https://doi.org/10.1177/1464884917733589

Pew Research Center (Ed.). (2016). *The state of the news media 2016*. http://assets.pewresearch.org/wp-content/uploads/sites/13/2016/06/30143308/state-of-the-news-media-report-2016-final.pdf

Russi, L., Siegert, G., Gerth, M. A., & Krebs, I. (2014). The relationship of competition and financial commitment revisited: A fuzzy set qualitative comparative analysis in European newspaper markets. *Journal of Media Economics*, *27*(2), 60-78. https://doi.org/10.1080/08997764.2014.903958

Table A3

A full list of the annotating queries on news recommendation and search goals and text inputs for the annotators

|  |  |  |  |
| --- | --- | --- | --- |
| **Recommendation and search goals** | **Description** | **Sentence Query** | **Keywords Query** |
| **1. Objective** | based on known information |  |  |
| Query #1: news genre | “type or category” | *I want to know the latest situation of covid-19.* | *Latest news on covid-19* |
| Query #2: language | We selected two languages: one is Chinese; and another is the native language of the annotators | 你會說中文嗎？ | 中文 Chinese |
| Query #3: release date | We picked up a date when WHO announces the Covid-19 as a global pandemic. | *I want to know some news stories on covid-19 on 12 Mar 2020.* | *Covid-19 on 12 Mar 2020* |
| Query #4: Region | primary places where the news event is happened | *I want to know some news stories on covid-19 in the DC Washington* | *Covid-19 DC Washington* |
| Query #5: deep features of the news | Exemplars in the news | *I want to read an investigative report on the immigrants of covid-19 prevention.* | *Covid-19 immigrants* |
| Query #6: people in the news | people featured in the news story (the national leader in our study) | *I want to know how Donald Trump discusses the covid-19.* | *Covid-19 Donald Trump* |
|  |  |  |  |
| **2. Informational** |  |  |  |
| Query #7: advice |  | Tell me how to avoid being infected for the covid-19. | Avoid being infected by covid-19 |
| Query #8: un-directed | tell me about X | *Tell me about the quarantine policy in the New York City* | *Quarantine covid-19 New York City* |
| Query #9: directed-closed | a question with a single and non-ambiguous answer | *What is the current quarantine policy in [the largest city of the country]?* | *Quarantine policy [the largest city of the country]* |
| Query #10: directed-open | a question with an open answer | *Why the New York City would have such a crazy current quarantine policy?* | *Why Quarantine policy New York City* |
| Query #11: list | a list of information | Tell me where to get the information about the covid-19 | Information about the covid-19 |
| Query #12: locate | some real-world service can be provided | Tell me where to get masks! | Masks store |
|  |  |  |  |
| **3. Subjective** |  |  |  |
| Query #13: emotion |  | *Do you have some good news on covid-19 to share?* | *Happy news covid-19* |
| Query #14: Quality |  | *Do you have some credible news stories on covid-19 to share with me?* | *Credible news covid-19* |
| Query #15: relationship to another news (sports) | We selected three international news on different beats | *Do you have some news on covid-19 that is related to the Tokyo Olympics?* | *Covid-19 Olympics* |
| Query #16: relationship to another news (politics) | We selected three international news on different beats | *Do you have some news on covid-19 that is related to the 2020 US Election?* | *Covid-19 Election* |
| Query #17: relationship to another news (finance) | We selected three international news on different beats | *Do you have some news on covid-19 that is related to the Dow Jones Index?* | *Covid-19 Dow Jones* |
| **4. Resource** |  |  |  |
| Query #18: obtain | to obtain a resource that does not require a computer to use, such as print it out and show on the screen, etc. | “I want to get a table showing the numbers of confirmed cases in different countries all around the world” | Numbers of confirmed cases global |
| Query #19: interact | interact with a resource using another program/services available on the website | Can I contact the news editor of this news story? | Contacting |
| Query #20: download | to download a resource to my computers. | I want to download the podcast audio files. | App download |
| Query #21: entertainment |  | Do you have some music to play? | Music to play |
|  |  |  |  |
| **5. Navigation** | **as a goal of the initial search** |  |  |
| Query #22: navigation | go to a specific known website | *I want to go to the webpage of the New York Times.* | *The website of New York Times* |

The search queries are modified from Kang et al (2017, p. 233), Rose and Levinson (2004, p. 15)

|  |  |
| --- | --- |
| Graphical user interface, text, application, chat or text message  Description automatically generated | Graphical user interface, text, application, chat or text message  Description automatically generated |

Figure A1: non-workable chatbots: not being able to produce any message

|  |  |
| --- | --- |
| Graphical user interface, text, application, chat or text message  Description automatically generated | Graphical user interface, text, application, chat or text message  Description automatically generated |

Figure A2: examples of workable but out-of-service chatbots

|  |  |
| --- | --- |
| Graphical user interface, application  Description automatically generated | Graphical user interface, text, application  Description automatically generated |
| Graphical user interface, text  Description automatically generated | Graphical user interface, text, application, chat or text message  Description automatically generated |

Figure A3: examples of workable chatbots: producing responses to most of the queries with news articles

|  |  |
| --- | --- |
| Graphical user interface, text, application  Description automatically generated | Graphical user interface, text, chat or text message  Description automatically generated |

Figure A4: examples of chatbots’ reparative strategies: offering pre-defined options as responding to the search queries

|  |  |  |
| --- | --- | --- |
| Graphical user interface  Description automatically generated | Graphical user interface  Description automatically generated | Graphical user interface, text  Description automatically generated |

Figure A5-1: When searching three different keywords, the chatbot returned the same results (*Clarin*)

|  |  |  |
| --- | --- | --- |
| Graphical user interface, text, application, chat or text message  Description automatically generated | Graphical user interface, text, application  Description automatically generated | Graphical user interface, text, application  Description automatically generated |

Figure A5-2: When searching three different keywords, the chatbot returned the same results (ABC)