

Title: Second extension of the model appendix for “Research note: Fighting misinformation or fighting for information?”

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Date: January 12th, 2022

Note: The material contained herein is supplementary to the article named in the title and published in the Harvard Kennedy School (HKS) Misinformation Review.

Appendix C: Second extension of the model

Finally, in the second extension of the model, we explored a possible interaction between the acceptance of information and their production and circulation. In this extension, we assumed that the fact that an agent accepts a piece of news has an effect on the global composition of information. In detail, each time an agent accepts a piece of reliable information, the total proportion of misinformation (C_m) is decreased of a value P_r , and each time an agent accepts in a piece of misinformation the total proportion of misinformation is increased of a value P_m .

As for the previous extension, we started from the baseline scenario ($C_m = 0.05$; $B_m = 0.3$; $B_r = 0.6$) and we run simulations for a fixed value of $P_r = 0.0001$ (i.e., each time an agent accepts a reliable information, C_m decreases by 0.0001, or 0.01%) and for three values of P_m (0.0001, 0.001, and 0.01). In this scenario, the only possible equilibria are $C_m = 0$ or $C_m = 1$ (i.e., all information is reliable or all is misinformation); therefore, we ran the simulations until equilibrium was reached, and our main output is the proportion of runs where $C_m = 1$. Similarly to results of the previous extension, we observed noticeable effects only when the effect of misinformation is two orders of magnitude larger than the effect of reliable information. In this case, runs with P_m equal to 0.0001 or 0.001 all converge to situations in which all information is reliable. With $P_m = 0.01$ (i.e., an unrealistic situation in which every time any agent accepts a piece of misinformation, the baseline of misinformation increases by 1%), simulations converge in majority on $C_m = 1$ (i.e., a situation in which all news is misinformation).