

Strategic communication and manipulation

Citation for published version (APA):

Aradhya, A. A. (2021). *Strategic communication and manipulation*. Maastricht University.
<https://doi.org/10.26481/dis.20210902aa>

Document status and date:

Published: 01/01/2021

DOI:

[10.26481/dis.20210902aa](https://doi.org/10.26481/dis.20210902aa)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Impact of the Thesis

In this thesis we study two lines of works, first the sender-receiver stopping games, which is part of dynamic game theory, and second the multidimensional binary domain which is part of voting theory in social choice theory. We mostly focus on theoretical aspects of these topics. In this kind of research we try to define settings that imitate the real world scenarios and to reason the behaviour of the players involved. On one hand, we want these settings to depict the real life scenario as accurately as possible. On the other hand, we want the settings to be simple enough so that we can find substantial results which will help us to explain the behaviour precisely. As the real world is very complicated, these two objectives often conflict with each other, so it is very important to find a good balance.

Sender-receiver games and many of the related settings model the interaction between two or more partially informed players, and study how the flow of information takes place. This setting corresponds to many scenarios, for instance, competing firms want to exchange the information about the demand for the product, the supply and features of the product from other firms, etc. Our setting of sender-receiver stopping games relates very closely to the scenario in which an investor (receiver) decides whether or not to sell the stocks owned, and takes recommendation from a financial expert (sender) who has their own motives, such as commission earned on the transaction.

In voting theory, the main objective is to design voting rules which satisfy desirable properties, such as strategy-proofness, non-dictatorship. Many of such rules are being used to determine the outcome of elections on different levels. Our model of multidimensional binary domains closely relates to the scenario where the Parliament must decide whether to approve or reject a number of bills. Each member has a preference over each bill, whether or not it should be approved. It is

important in this scenario to have rules which can not be manipulated by any member individually or collectively.