Electronic Companion to accompany:

Reporting Guidelines for Simulation-based Research in Social Sciences

Instructions for Reproducing the Results

All the simulation models used in this study are available for independent analysis and inspection. These models are available in VensimFiles.zip, attached to this electronic companion. Once you unzip the file several files used in the Vensim™ simulation language are available. Vensim models can be easily opened, inspected, and simulated with the free Vensim Model Reader (or free Vensim PLE, in case of models not having subscripts and advanced functions) software available for download from: http://vensim.com/freedownload.html

List of Files

The following attachments are available in the e-companion along with this instruction file.

BassStochastic.mdl: The model reported in sections 2 and 4 of the paper, in the Vensim text-based .mdl format suitable for running in any version of the software.

BassStochastic.vsc: The sensitivity analysis specification file used for running the analysis reported in section 5 of the paper. You need Vensim DSS or Vensim Professional to use this file.

BassStochastic.lst: The save list for reducing the amount of data saved, useful in running the models with advanced versions of Vensim.

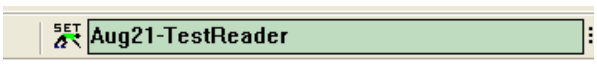
BassStochastic-Optim.mdl: The model used in section 6 in the .mdl format.

BassStochastic-Optim.vpd: The payoff definition file used for the optimization reported in section 6.

BassStochastic-Optim.voc: The optimization control file used for the optimization reported in section 6.

Opening, inspecting, and running the models

You can open each model (.mdl or .vpd files) and analyze it using the user friendly simulation environment provided by the Vensim Model Reader or Vensim PLE (download from http://vensim.com). You can view the equation for each variable by selecting that variable and clicking the "Doc" button in the left toolbar. You can follow the procedure below for simulating and analyzing the model behavior:

- First choose a name for your simulation and enter it in the field for simulation name in the middle of the top toolbar: 

- Click on the SET button to the left of this name.
- Now change the parameters of the model as desired. The current values of the parameters are shown if you click on each parameter.
- Simulate the model by clicking the Run button in the top toolbar:  .

This procedure is available for simulating the base run on any model.

Examining model behavior

- You can also use the tools in the left toolbar to see the behavior of different variables. Select a variable by clicking on it and then click on the desired tool. A graph or table of the variable of interest will be shown.

However, you cannot edit a model in the Vensim Model Reader. For that purpose you will need the PLE version of Vensim for editing BassStochastic.mdl and the Professional or DSS versions of Vensim for editing BassStochastic-Optim.mdl (due to the presence of subscripts in this model it cannot be simulated or edited in Vensim PLE, but can be simulated using the free Vensim Model Reader).

Reproducing the results in Section 5

You need the DSS or Professional Version of Vensim to reproduce this section.

- Open the BassStochastic.mdl.
- Select the button for sensitivity analysis on the top bar,  .
- Choose the file “BassStochastic.vsc” as the sensitivity control.
- Run the simulations by clicking the Finish button.

Reproducing the results in Section 6

- Open BassStochastic.mdl
- Select the button for optimization experiment on the top bar,  .
- Choose the BassStochastic-Optim.vpd in the Optimization Setup dialogue box that appears. Click “Next”.
- Choose the BassStochastic-Optim.voc in the Optimization Setup dialogue box that appears next.

- Click “Finish” to conduct the optimization experiment. The optimizations are currently set up to continue indefinitely, so you will need to stop the experiment after you feel comfortable with the reliability of the resulting optimum found.