Modeling Political Decisions for Sustainability

Module 3: Predictioneer's Game: Input Data

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Learning Goals

- Detailed Understanding of the Input Data (conceptual)
- Practice: Corona Policy Decision as Conceptual Example

Input Data

- Game-Theoretic Structure of Negotiations Between, At Minimum, Two Actors
- Inputs
  - "Group" (of Stakeholders of Players)
  - Stakeholder or "Player" (who?)
  - (Potential) "Influence" (how much?)
  - "Position" (where do they stand?)
  - Salience (how important is the particular issue?)
  - Resolve, "Flexibility," or Desire for Agreement (how flexible?)
  - "Veto" (yes/no)
  - Fixed Position *(unavailable)*
  - Random Shocks *(unavailable)*
  - Optimize *(potentially available)*

Example: Input file

Group	Stakeholder	Influence	Position	Salience	Flexibility	Veto	FixedPosition	RandomShocks	Optimize
	Australia	6	65	50	50	0	0	0	0
	Canada	9	60	50	50	0	0	0	0
	EU	87	95	90	35	0	0	0	0
	Japan	15	45	60	60	0	0	0	0
	Russia	6	40	50	60	0	0	0	0
	USPro	65	70	70	40	0	0	0	0
	USAnti	35	30	50	30	0	0	0	0
	CorpFor	3	95	50	50	0	0	0	0
	CorpAgainst	3	1	75	10	0	0	0	0
	NGOs	1	99	99	20	0	0	0	0
	China	15	5	90	30	0	0	0	0
	India	9	5	90	30	0	0	0	0
	Brazil	4	3	90	40	0	0	0	0

Source: Bueno de Mesquita (2009, 217)

Input Data

- Stakeholder or Player
  - select a finite set of players
  - e.g., on forest carbon in Germany
- Influence, Position, Salience, & Flexibility
  - develop verbal scales with corresponding numerical entries for inputs *(position scales developed in class sessions)*
  - position scale: e.g., *To which degree will the 2040 EU greenhouse gas net emission reduction goal be allowed to be met by carbon removals?*
- Veto
  - 0 (no) or 1 (present)

Input Data

- Data Entry (-> Predictioneer's Game - Software)

Category	Score
Group	Alphabetic (NOspaces)
Player	Alphabetic (NOspaces)
(Potential) Influence	> 0
Position	score depends on scale
Salience	0 < salience < 100
Flexibility	0 ≤ flexibility ≤ 100
Veto	0 or 1
Fixed Position	*insert "0" [zero]*
Random Shocks	*insert "0" [zero]*
Optimize	*"0" for no, "1" for yes (for a specific actor)*

Input Data

- Setting Up The Simulation
  - *actors or players*
    - include *potential* as well as active stakeholders
  - *potential influence*
    - "Potential influence, often referred to as "resources," is simply the bargaining clout of each stakeholder, *relative to each other*. It is a measure of the amount of influence a stakeholder could have on determining the outcome relative to other stakeholders if all stakeholders were fully motivated." (Sprinz & Bueno de Mesquita 2015, emphasis added)
    - > 0! Why?
    - 100 is a useful benchmark for the potentially most influential stakeholder
    - other stakeholders are evaluated *relative* to the potentially most influential stakeholder
    - differences in scores reflect relative distances in potential influence

Input Data

- Setting Up The Simulation (cont.)
  - *Position*:
    - revealed preference
    - define a single dimension underlying the *positions* on which actors negotiate
    - "If the stakeholder were asked to write down his or her position, without knowing the values being written down by other stakeholders, what would he or she write down as the position he or she prefers on the issue continuum?" (formerly: www.predictioneersgame.com/game)
    - "The stated position is the outcome currently advocated by a stakeholder… [and normally NOT]:
      - the outcome that the stakeholder would truly prefer above all others,
      - the outcome that the stakeholder anticipates at the end of the negotiations, or
      - the outcome that the stakeholder is prepared to accept." (Sprinz & Bueno de Mesquita 2015)
    - include lower bound and upper bounds of *actually supported* outcomes (range of scale)
    - develop more finely grained, continuous scale points and descriptors in between lower and upper bounds
    - score the *status quo* on the scale
    - We will practice this during this module and →Module 11.

Input Data

- Setting Up The Simulation (cont.)
  - "Salience
    - is the commitment the stakeholder has in pursuing this issue over all other issues and topics competing for attention
    - *Numerical Definitions:*
    - 90-99: This is the most important issue to the stakeholder. The stakeholder would drop whatever they are doing and turn to this issue whenever asked.
    - 70-80: This issue is very important to the stakeholder. It is certainly one of the most important issues. The stakeholder would try very hard to reschedule to handle this issue when it arises.
    - 50-60: This is one of several important issues. Others are more important. The stakeholder would have to drop this if one of those other issues arose, but otherwise would try to focus on this issue.
    - 30-40: This is an issue the stakeholder cares about, but it is not that important to the stakeholder. The stakeholder has many more important issues to deal with and so generally would not drop what they are doing to deal with this and generally would focus on something else.
    - 10-20: This is a minor issue to the stakeholder. The stakeholder rarely pays attention or makes much effort.
    - <10: The stakeholder really doesn't care about this issue."
      (Sprinz & Bueno de Mesquita 2015, revised)

Input Data

- Setting Up The Simulation (cont.)
  - Flexibility
    - "preference for reaching an agreement as compared to sticking to his or her preferred position even if it means failing to reach an agreement …
    - *[Numerical Definitions:]*
      - 90-100: Overwhelmingly prefers reaching an agreement and being a party to it. The stakeholder is prepared to accept almost any outcome on the continuum if it means resolving the issue.
      - 70-80: Reaching an agreement is considerably more preferable than showing resolve and sticking to one's position, but the stakeholder has limits concerning how far s/he will go on the continuum to make a deal.
      - 50-60: The stakeholder has a fair amount of flexibility regarding the outcome, but is mindful of trying to promote seriously the position s/he prefers. Reaching agreement is about as important as promoting an outcome favored by the stakeholder. Few players are routinely much higher than this to start with. …
      - 30-40: Reaching an agreement is considerably less preferable than showing resolve and sticking to one's position, but the stakeholder is open to significant concessions on the issue dimension in order to improve his or her welfare on the flexibility/resolve dimension.
      - 10-20: The stakeholder strongly values the position s/he has advocated although s/he will make some significant concessions to reach an agreement not too far from his/her current position. Losing is preferred to being a party to a deal that is not close to the stakeholder's preferred position.
      - Near 0: The stakeholder is almost completely intransigent so that there are very few issue resolutions s/he will agree to and they must be very near the stakeholder's preferred position. The player is highly resolved and prepared to lose rather than offer more than minor concessions." (formerly: www.predictioneersgame.com/game)
    - score is the ± points on the position scale that the actor pays attention to
  - format input file: ".txt" (tab-delimited)
  - see also Sprinz & Bueno de Mesquita (2015, 26-29)

Mock Example: UP return to internet-based teaching?

- Mock Example: Consider that a major new wave of infection occurs in Germany or Japan. The University of Potsdam/University of Tokyo is rethinking in-class teaching in the presence of strongly rising incidences of, similar to Covid-19 infections.
  At which level of infections will the University of Potsdam return to remote (rather than on-site) teaching for seminars (such as ours)?

- Stakeholder or "Player" (who?)
  - …
- (Potential) Influence (how much?)
  - suggest a scale
  - …
- Position (where do we stand?)
  - suggest a scale
  - …
  - scale a couple of players on the position scale

Mock Example: UP return to remote teaching?

- Salience (how important is the particular issue?)
  - by player…
  - …
- Flexibility
  - by player
  - …
- Veto (yes/no)
  - by player
  - …

- Breakout Groups

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	NGOs	1	99	99	20	0	0	0	0
	China	15	5	90	30	0	0	0	0
	India	9	5	90	30	0	0	0	0
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Questions Received

- No Questions Received