THE BOARDROOM

RULES & FACILITATOR GUIDE

I'M A SERIOUS GAME

The Boardroom is designed to help players both experience and understand core concepts from game theory. Players will experience both the power and limitations of rational strategy.

The game targets the following learning objectives:

(LO1) Use mathematical game theory to analyse mathematical toy example games

(LO2) Understand the limits of game theory when used on 'real world' scenarios

(LO3) Communicate solutions to problems accurately with structured and coherent arguments

(LO4) Develop fluency with game-theoretic terminology and definitions

The game is designed so that learning emerges during play. Decision are made first, and reflection happens afterwards, allowing players to connect their experiences to underlying ideas.

Crucially, the game is led by a facilitator, who teaches concepts upon first exposure and facilitates discussion after each meeting. See the Facilitator Notes for more on this.

GAME OVERVIEW

- In the Boardroom, players are executive business-people, looking to fill their pockets with *money, money, money*. Every meeting, players will divide themselves into 2 opposing coalitions, each led by a CEO who wields final decision-making power.
- Coalitions will select moves, with each combination of moves corresponding to a unique outcome, described by a payoff matrix.
- Players will strategise, collude and bargain their way through **7 meetings**, seeking to maximise their payoff at the end of each meeting.

AIM: When the final meeting concludes, the **richest** player at the table wins.

- While financial success is the ultimate goal, players must take heed of the social currency of the game - **trust**. Trust affects player reputation and gives leverage to acquire CEO status, and therefore potential big bonuses at the end of the meeting.

INSIDE THE BOX

- 1 Board
- 15 Matrix Cards (6:6:3 of Tier I:II:III)
- 8 Screens
- 8 Name Tags
- 8 Key Lingo Cards
- 24 Suggestion Cards
- 30 Trust Tokens
- 50 Coins
- 1 Meeting Tracker
- 1 Early Bird Token

SETUP

- Global Setup
- Player Setup

Global Setup

1. Place the board in the centre of the table. Place the meeting tracker on meeting number 1.
2. Place the deck of matrix cards within the reach of the facilitator. See facilitator notes for extra guidance here.
3. Form a pile of trust token within reach of all players. Form a pile of coins within reach of all players.
4. Place suggestion cards centrally, organised into sets of three (a set consists of either A, B, C or X, Y, Z).

Player Setup

1. Give each player a screen, a name tag and a key lingo card.
2. Deal each player 2 trust tokens from the supply. They should keep trust and money gathered throughout the game hidden behind their screen.

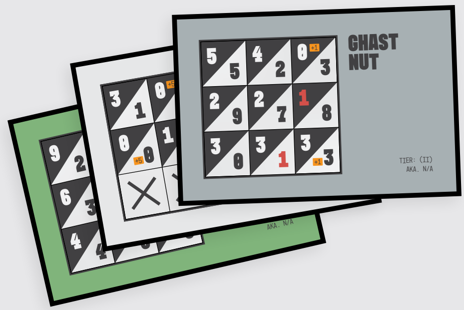
THE MATRIX CARDS

HOW TO INTERPRET

Each pair of moves (one from A, B, C and one from X, Y, Z) corresponds to a unique outcome on the matrix.

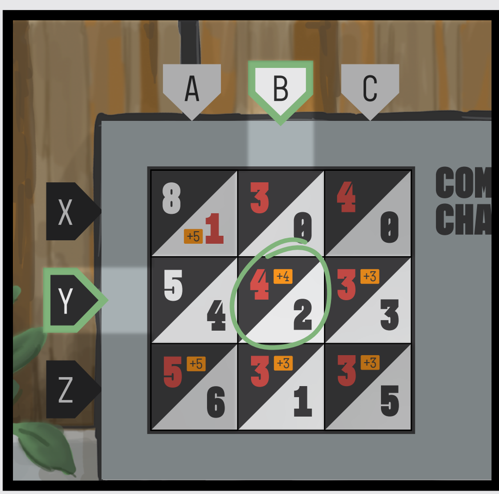
To **interpret an outcome**, use the following rules:

- The background colour dictates which coalition receives the payoff
- Payoffs are **not split** amongst the members of the coalition
- A red number indicates a negative payoff (players lose money)
- CEO bonuses are noted within orange rectangles. The CEO will gain the bonus **in addition** to the regular payoff



REFLECTION SIDE

On the back of each matrix card, there are a selection of questions to be discussed during the REFLECT phase of each meeting. This is a key part of the learning; discussion draws out the key concepts that players may have experienced during gameplay.



Example: Suppose the light coalition plays move **B**, while the dark coalition plays move **Y**. This corresponds to the central outcome. Then,

- Light coalition members each receive a payoff of +2
- Dark coalition members each receive a payoff of −4
- However, the dark CEO receives a bonus of +4 in addition to the regular payoff, totalling to 0 payoff

MEETINGS

The game consists of 7 meetings. Each meeting follows the Agenda, which is outlined on the game board and detailed in the following section.

THE AGENDA

DISPLAY PAYOFF MATRIX

To begin the meeting, the facilitator should select a matrix from the deck and place it on the game board.

(See facilitator notes for extra guidance here.)

THINKING TIME (1 MIN)

Set a 1 minute timer. During this time, players must not communicate, but they are encouraged to make observations about the current matrix and begin to plan their strategy. Players are free to make jottings with any available pen and paper.

CHOOSE COALITIONS

(See Example 1 overleaf.)

After thinking time is complete, players should choose coalitions.

Choice begins with the player who has the Early Bird token and travels clockwise around the table. For meeting 1, this is the facilitator.

To indicate their choice, players place their name tag on a chair.

The first player to become a member of each coalition sits in the CEO ( ) chair of their chosen coalition.

ELECT CEOS

(See Example 2 overleaf.)

CEOs have the role of making the final decision for their coalition's move, in addition to gaining orange CEO bonuses during the RESOLVE PAYOFF phase of the meeting.

The election of CEOs follows the proceeding sequence:

1) Players secretly choose to hold some number of trust cubes in a closed fist above the table (this may be none).
2) Simultaneously, players reveal how many trust cubes they bid.
3) The highest unique bid within each coalition becomes CEO. To indicate this, they should swap their name tag with the player in the CEO chair (if applicable).

Note: In the case of no **unique** bid, the player already sat in the CEO chair is CEO for that meeting.

Importantly, any bid trust is spent, regardless of the outcome, and should be returned to the supply.

A USEFUL EXAMPLE (CHOOSE COALTIONS & ELECT CEOS)

1

- Alice has the Early Bird token so chooses first
- Choice then travels clockwise around the table (Alice, Bob, Clara, ...)
- Since Alice is **first** to choose the dark coalition, she sits in the dark CEO chair. Similarly, Clara is first to choose the light coalition and sits in the light CEO chair

2

To elect CEOs, players then secretly bid trust in a closed fist over the table.

When revealed, the bids within each coalition are as follows:

Dark coalition | Alice (2), Bob (2), Daniel (0)

- Alice and Bob have the highest bids. However, they are **not unique** as they bid the same amount. As such, Daniel becomes CEO and he and Alice swap tags.

Light coalition | Clara (3), Ella (3), Frank (3)

- All players bid the same amount, meaning there is no unique bid. Since Clara is **already** sat in the CEO chair, she becomes CEO.

All players' bid trust is spent and returned to the supply.

STRATEGISE (3 MIN)

This is a timed period of open table discussion. During this time, players may discuss tactics, negotiate, express intentions, and strike deals.

These may be across or within coalitions.

Players may also exchange money and trust within their deals. Once exchanged, this is not reversible. However, all verbal commitments are non-binding.

SELECT MOVE

After strategising, players privately pass a suggestion card to their CEO, indicating the move they wish to be played.

After considering these, the CEO may choose any legitimate move (irrespective of their coalition's advice), placing their suggestion card face down on the table.

Once both CEOs have chosen, the moves are revealed.

RESOLVE PAYOFF

For the moves chosen, the payoff should be resolved. Every player in a given coalition gets the same payoff, except the CEO, who may receive a bonus.

If conditional deals were made during the strategise phase, money and trust may be redistributed now. Though, of course, players are not obliged to follow through.

EXPRESS TRUST

Every player must give one trust cube to another player (not themselves) from the supply. This phase allows players to reward those who followed through on their word and acted in global rather than self interest.

However, players are free to express trust for any, or no, justified reason.

REFLECT

The facilitator should now flip the current matrix card to its other side to reveal the reflective questions.

These questions should be discussed amongst the table and players are encouraged to ask their own questions and present observations during this time also.

(See facilitator notes for more guidance here.)

ENDING THE MEETING

At the end of each meeting:

1) Discard the current matrix card
2) Increase the value of the meeting tracker by 1

THE 7TH MEETING

Every meeting follows the same structure, with the exception of the 7th (and final) meeting.

The 7th meeting is altered as follows:

- During the RESOLVE PAYOFF phase, all **pay-offs are doubled**
- The EXPRESS TRUST phase is **skipped**

ENDING THE GAME

- After the completion of the final meeting, it is time to determine the winner. Players should total the value of their coins, adding 1 for each remaining trust cube they have.
- The player with the most money is the winner.
- In the case of ties, it is the player with the most trust who wins.

FACILITATOR NOTES

ASSUMED KNOWLEDGE

The facilitator is expected to be comfortable with all definitions given on the Key Lingo sheet. In addition to this, the facilitator should be confident with identifying the following concepts in practice:

- Nash equilibrium
- Pareto Optimality
- Iterated Strict Dominance

LEADING THE DISCUSSION

Normally, there is one technical question and one heuristic question. Where possible, avoid just explaining the answer to the question. It is okay if you are introducing a technical concept for the first time to demonstrate it. However, it is preferable to try and guide players with leading questions.

Don't feel the need to extend the discussion if it was brief; if it appears that players are happy with the discussed concepts, continue with gameplay.

Encourage conversation and players bringing their own observations and insights

CHOOSING MATRICES

The matrices are designed to be categorised into tiers by difficulty. The facilitator is expected to gauge the understanding of the group and move onto harder matrices when appropriate.

Attempt to ensure a representative coverage of concepts across the seven meetings.