

# **Threats & Trade-offs**

Game Master Instruction Guide



## ABOUT THIS GUIDE

The 'Threats & Trade-offs' game is intended to be played in an educational or research environment supported by a Game Master who steers players through the game.

This is a cooperative game, intended for teams of up to 6 players. It can also be played by a single player on their own.

### STEP 1: SET UP THE GAME

- 1** - Place the board in the middle of the table.
- 2** - Shuffle the Investor deck and place it **face down** next to the board.
- 3** - Shuffle the Cyber Attack deck, and place it **face down** next to the board.
- 4** - Layout the Cyber Defence market cards **face up** next to the board.
- 5** - Place a token at £0 on the Budget track around the board's edge.
- 6** - Place a token at £0 on the Product Innovation track on the left-hand side of the board.
- 7** - Place a token in the circle marked '5' of the Customer Satisfaction track.
- 8** - Place a token in the circle marked '5' of the Employee & Doctor Satisfaction track.
- 9** - Place a token in the box marked 'Cyber Update x1' of the Customer tracker.
- 10** - Place the Loan pad in sight of everyone.
- 11** - Place the Cyber Attack sheet so that only the Game Master can access it.
- 12** - Place a dice in reach of the players.

## STEP 2: INTRODUCE THE GAME

Welcome to 'Threats & Trade-offs'.

Today you will create, develop, and manage a startup centred around Smart Healthcare. The aim of the game is to successfully grow your startup by balancing cybersecurity and business investments whilst fending off cyber attacks.

The game is fast and at times complicated - much like life for any real life startup. We are interested in understanding your decision-making, and your responses to the twists and turns that come your way. But don't worry, the Game Master is on hand to help with any questions you might have as the game progresses.

You have always dreamt of helping people become their best and healthiest selves, and finally, the day has come when your startup idea sees the light of day. You have already created a product demo and established a market need. Now it's time to scale up your business.

To win the game, you must reach £200k on the budget track with at least 15 customers and no outstanding loans.

The game is played over a series of rounds. Each round consists of five phases which always take place in the same order: The Funding Phase, in which you receive investment. The Development and Customer Acquisition Phases, where you spend your money. The Attack Phase, where you suffer cyber-attacks. And finally, the Loan Repayment phase, where you repay any due loans.

For handy reference to the different phases during the course of play, please refer to the **PLAYER GUIDE** on the final page of these instructions.

After the phases are complete, the round begins again with a new investment. The game is played over as many rounds as needed until you reach the victory conditions. But if your budget balance goes negative at any point in the game, you go bust and lose! Now it's time to begin.

## **STEP 3: PLAYING THE GAME**

### **FUNDING PHASE**

#### **Part one: Investment**

- One player takes an Investor card from the Investor deck and reads it aloud.
- The players receive the money on the card multiplied by the Investment Ratio of their current product innovation stage marked by their token on the Innovation track.
- Move the Budget token along by the corresponding amount on the Budget track.
- The player returns the Investor card to the deck and shuffles it.

#### **Part two: Taking out a loan \*OPTIONAL\***

- Players have the option to take out a loan. They can only take out loans up to the value of their current budget, and there are variable payment terms and premiums, as shown on the Loan table.
- If they choose to take out the loan:
  - *Mark its value and term, and draw a line for each term on the Loan pad.*
  - *Move the Budget token along by the corresponding amount on the Budget track.*

### **DEVELOPMENT PHASE**

- In any order, the players may spend their budget buying defences and investing in product innovation.
- Remind the players that they may wish to reserve some money to acquire customers in the next phase.

### **To buy Cyber Defences:**

- Players select any cards from the Cyber Defence market and purchase them using funds from their budget.
- The defence costs are marked on the card, multiplied by the most recent Cyber Defence Update modifier they have reached on the Customer pad.
- Place any purchased Cyber Defence cards on the Purchased Cyber Defences area of the board. If they purchase a Reader, place it on the Reader Device area of the board.  
IMPORTANT: Players cannot acquire customers until they have purchased a reader device.

### **To invest in Product Innovation:**

- Players may invest in multiples of £10k to move the Product Innovation token up the Product Innovation track on the board.
- Doing so changes the likelihood of acquiring customers, the revenue generated from customers and the amount investors are willing to invest.

## **CUSTOMER ACQUISITION PHASE**

### **Part one: Customer Acquisition**

**Remember: Players can only start trying for customers when they have purchased one of the reader devices.**

- Players can acquire new customers by paying to roll dice up to 5 times. The company gets 1 customer for every winning roll, which varies by the stage on the Product Innovation Tracker.
- The cost of each roll for customer acquisition depends on the number of current customers; refer to the Customer Acquisition costs table on the board. As in real life, it is much harder to acquire customers in the very early stages of the startup's development of product innovation.

- If they choose to acquire customers, deduct the total acquisition cost from their budget using the Budget token and track.
- The players roll the dice the number of times they have paid for. Move the Customer token to track each new customer on the Customer tracker for each winning roll.
- At the end of the stage, multiply the total number of customers by the current price on the Product Innovation track to calculate the players' revenue. Move the Budget token up the Budget track by the corresponding amount.

### **Part two: Cyber Defence updates**

- Once the players reach a certain number of customers, all Cyber Defences go up in price as indicated by the Cyber Update multipliers on the Customer pad.
- New cyber defences will now cost their price multiplied by the current Cyber Update multiplier.
- On the turn where the players acquire enough customers to go over the next threshold, they must choose if they wish to repurchase their defences.
- If the players want to keep their old defences, they need to immediately pay the listed price again (not affected by the Cyber Update multiplier). Otherwise, they return the relevant Cyber Defence cards to the Cyber Defence market.

### **CYBER ATTACK PHASE**

- The players pick a card from the Cyber Attack deck and read out the name.
- The Game Master consults the Cyber Attack table.
- If the players have the correct Cyber Defences to mitigate the attack, inform them of this and do nothing.

- If the players do not have the correct Cyber Defence, read out the description and implement the outcome on the relevant trackers on the board.

- If the players go under £0 on the Budget track due to a cyber attack, allow them an additional investment from the Investor deck by drawing a card from a well-shuffled deck:

- If the received investment is sufficient to save them from the loss, add the investment to the budget board, subtract the loss from the cyber attack, and let the players continue with the remaining budget.

- If the received investment wasn't enough, add the investment to the budget board anyway, and let players borrow money. Add the loan to the budget board, subtract the loss from the cyber attack, and let players continue with any remaining budget.

- If players survive a cyber attack after taking an investor card, they start their next round from the step two of the Funding phase. If players survive a cyber attack after taking an investor card AND taking out a loan, they start their next round in the Development phase.

- If both steps aren't enough, the players lose the game.

- If the players hit the final space on either the Customer Satisfaction track or the Employee & Doctor Satisfaction track, they immediately lose the game.

## **LOAN REPAYMENT PHASE**

- Check players' outstanding loans on the Loan pad.

- Add a turn marker to each loan to mark the term progress.

- If a loan is due for repayment, move the Budget token back by the corresponding amount on the Budget track.



- If the players don't have enough money to repay the loan, follow the same end-game process as in the Cyber Attack phase:

- *First, give them an additional investment; if it's not enough, let them borrow money. However, if the players already used both options to survive in the previous phase, they can't do so again and lose the game.*

- *If the players only used investment but did not borrow money to survive a cyber-attack, they can only borrow money to repay the loan. If they can't borrow enough, they lose the game.*

- *Similar to the previous phase, the players continue to either Step Two of the Funding phase or the Development phase of the next round with whatever remains after loan repayment.*

- Once the Loan Repayment phase is complete, begin a new turn starting with the Funding Phase (or Step Two of the Funding phase / the Development phase, if relevant).

## **ADDITIONAL NOTES AND FAQ**

The players will likely lose their first game early. In this case, the game master should let them know that it is a trial run, and about 90% of startups fail on their first try. In this case, the game master should let the players try again, using the knowledge from their first failure to have a more successful second playthrough.

## **GAME CREDITS**

**Developer:** Dr Kseniya Stsiampkouskaya



**Contributors:** Prof. Adam Joinson, Dr Joanna Syrda,  
Dr. Oishee Kundu

**Design:** Firehaus



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## PLAYER GUIDE - QUICK REFERENCE


### 1. FUNDING PHASE

You will draw a card from the Investor deck (  ) and receive a new investment. You can also choose to take out a loan. You can only take out loans up to the value of your current budget, and there are variable payment terms and premiums, as shown on the Loan table (  ).


### 2. DEVELOPMENT PHASE

You can opt to buy new cyber-security defences from the Cyber Defence market and / or invest in product innovation. Cyber-defences have varying costs, as shown on the cards (  ); some defend against multiple attacks, others only one. To invest in product innovation, you can spend money to move the Product Innovation token up the Product Innovation track (  ), reaching new innovation stages that positively affect how you receive investment, acquire customers and generate revenue.

### 3. CUSTOMER ACQUISITION PHASE

You will need to spend money to acquire new customers (  ). The cost to acquire customers gets more expensive the more you have, and you also need to reinvest in security as you go through certain thresholds. The chance of acquiring customers increases as you invest in product innovation; the more customers you have, the more revenue you earn.

### 4. ATTACK PHASE

You will draw an attack from the Cyber Attack deck (  ) and resolve the effects, hopefully mitigating them with your purchased Cyber Defences.

### 5. LOAN REPAYMENT PHASE

In the round's final phase, you must repay any due loans (  ).