

Study Materials for “Understanding Managers’ Trade-offs between Exploration and Exploitation”, forthcoming in Marketing Science

Study 1 – The bandit experiment

Page 1

Welcome!

Welcome and thank you for participating in this experiment. Your participation is anonymous and your answers will remain confidential. If you have any questions about the exercise, please send an email to ferecatu@rsm.nl.

The purpose of the experiment is to study how people make decisions.

The experiment takes place in **two stages**. In the first stage, you will participate in a business simulation. In the second stage, you will be asked to answer a survey.

From now on until the end of the experiment, please do not communicate with other participants. If you have any questions, please raise your hand. An experimenter will come to your place and answer your question privately.

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Your earnings

In this experiment, you can earn money. In addition to the pre-determined show up fee of 1 Euro, the specific amount depends on your decisions.

In the experiment, we use ECU (Experimental Currency Unit) as the monetary unit. 1500 ECUs are worth 1 Euro. Profits during the experiment will be added to your account. At the end of the experiment, the balance of the account will be converted from ECUs into Euros according to the conversion rate announced above, and paid out by bank transfer.

The rules of the experiment will be explained shortly.

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The business simulation

You work at **xtremesports.com**, an e-commerce website specialized in sports apparel and equipment.

You are in charge of new product development and propose to introduce a new offer: sports magazine subscriptions.

Management gives you **100 days** to show the business potential of the new product. They give you a prominent **advertising space** on the home page of the **xtremesports.com** website to promote sports magazine subscriptions. If enough customers show interest by clicking on the **banner ad** you implement on the advertising space, the offer will be launched.

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The banner ads

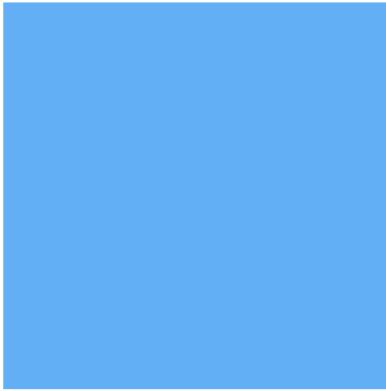
You have designed three different banners, labeled "Ad A", "Ad B", and "Ad C".

Each day, you will decide which banner to display on the website, and at the end of the day, you will know how many clicks it had generated. The number of daily clicks can vary quite a bit, but it should lie between 0 and 100 clicks. The banners lead to different amount of daily clicks on average.

The average performance of a specific banner will not change during the simulation or with the number of times you click on it.

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Your objectives

After 100 days, top management will evaluate the efficiency of the offer based on the **total number of clicks** on the banner ads, irrespective of whether they come from banner A, B, or C.

Therefore, you need to:

1. Find the banner ad leading to most daily clicks, on average.
2. Generate as many clicks as possible during the 100 days period.

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The platform

Next you will see a page with 3 buttons, labeled "Ad A", "Ad B", or "Ad C". Each button corresponds to a banner ad displayed on the xtremesports.com website for a day. Each time you select a banner ad, you will see how many clicks it has generated on that day (between 0 and 100 clicks). That number will be added to your overall performance.

To help you keep track of your performance, you will have access to a marketing dashboard that displays the daily performance of each banner, updated every time you choose to display a specific banner.

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Warm-up

Next, you will play the simulation for 10 rounds. It is just a warm-up. Your performance will not be tracked.

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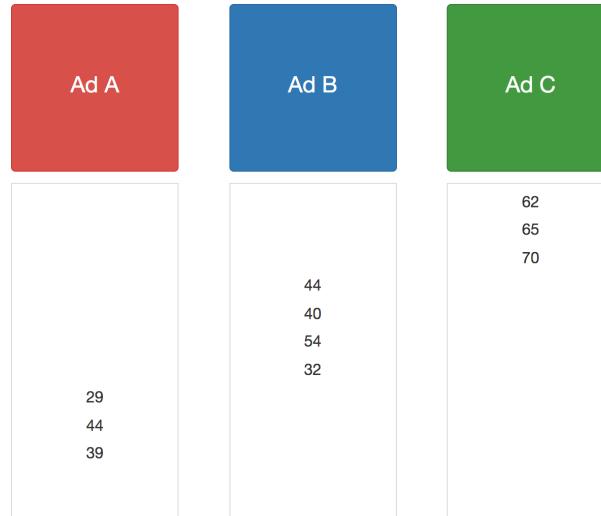
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Warm-up complete!

Total cumulated rewards: 479 ECU
Days left: 0

You have completed the warm-up.
Click on the next button to continue to the next page.

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Business simulation

The banner ads were shuffled after the warm-up period, so any information related to the banners' performance that you gathered during warm-up is irrelevant.

From now on, **your performance will be tracked**. You will be paid according to your performance.

Reminder: Your objective:

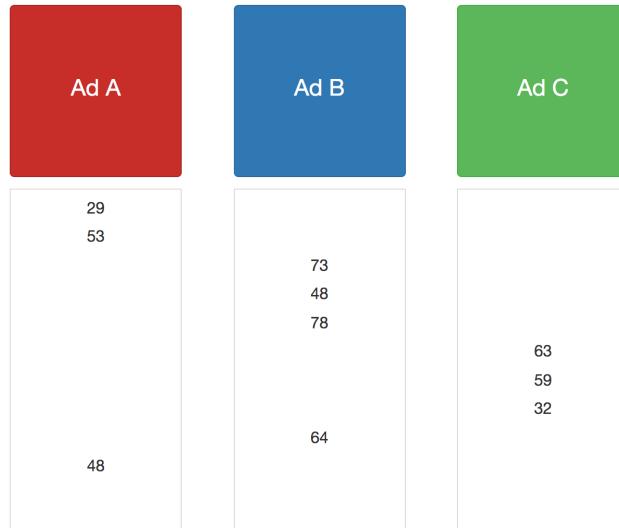
1. Find the banner ad leading to most daily clicks, on average.
2. **Generate as many clicks as possible** during the 100 days period.

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Business simulation

Total cumulated rewards: 547 ECU
Days left: 90

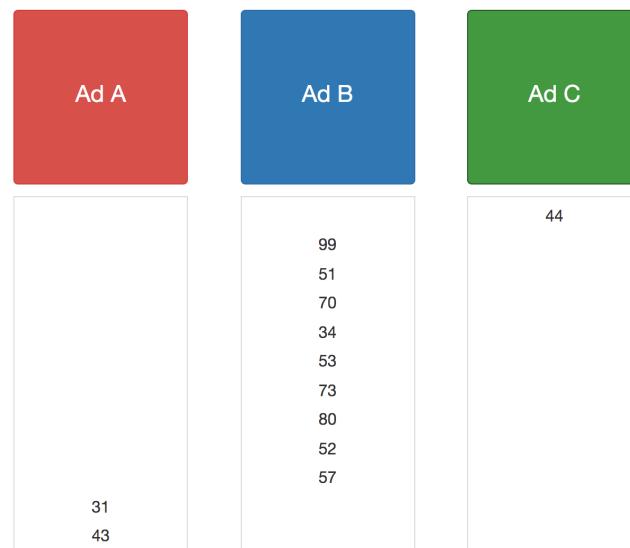


**Business simulation
complete!**

Total cumulated rewards: 3802 ECU
Days left: 0

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You have completed the business simulation.
Click on the next button to continue to the next page.



Simulation Results

Your total score was 3802 ECU.

Your payment is 3.54 EUROS.

You have completed 50% of the study.

Your payment will be added to the gains you earn in the second part of the study, which consists of a questionnaire.

Your gains will be validated by the experimenter and paid via a bank transfer, within a month.

Click on the button below to be redirected to the second and last section of the study.

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Study 2 – Learning across repeated bandit experiments

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Welcome! Thank you for participating in this study.

DESCRIPTION: We are researchers studying how people make decisions. In this study, you will first receive instructions on what to do, then you will make multiple rounds of decisions. Participation should take about **15 minutes**.

CONFIDENTIALITY: The information collected in this study will be used for scientific purposes. The data is reported anonymously. We will never share your Prolific ID or any other identifying information with others.

YOUR RIGHTS: Your participation is voluntary. You may stop participating and withdraw from the study at any time by closing this browser tab. Partial data will not be analyzed.

ETHICAL APPROVAL: This study has been approved by the Internal Review Board of the Erasmus Research Institute of Management, and is registered under the code 2020/06/08-58436afe..

CONTACT INFORMATION: In case you have any questions related to this task, please contact us at ferecatu@rsm.nl

CONSENT: By clicking Next >, you agree to continue to the study.

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Your task and your compensation

Your task consists of three parts:

- A **first** business simulation.
- A **second** business simulation, similar to the first.
- A survey

Your compensation is:

- Your hourly compensation, as advertised.
- **A bonus** – the amount depends on your decisions in all three parts.

Here are the compensation details:

- In the business simulations, we will use ECU (Experimental Currency Unit) as a monetary unit. **3000 ECUs are worth 1£**.
- We will convert your earnings from the business simulations from ECUs into £ using this conversion rate. We will add them to your bonus.
- The survey includes a short task where you can earn money. We will add the earnings for the survey to your bonus.
- At the end of the experiment, we will transfer your bonus into your Prolific account.

IMPORTANT : Please complete the task alone. Pay attention to the business simulation and survey questions. There will be an attention check.

- Do not use Google/Excel or any other external materials. It invalidates our experiment.
- Do not talk to others.

[Business simulation instructions >](#)

Page 3

The business simulation setup

You work at **xtremesports.com**, an e-commerce website specialized in sports apparel and equipment.

You are in charge of new product development and propose to introduce a new offer: sports magazine subscriptions.

Management gives you **100 days** to show the business potential of the new product. They give you a prominent **advertising space** on the home page of the **xtremesports.com** website to promote sports magazine subscriptions. If enough customers show interest by clicking on the **banner ad** you implement on the advertising space, the offer will be launched.

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The banner ads

You have designed three different banners, labeled "Ad A", "Ad B", and "Ad C".

Each day, you will decide which banner to display on the website, and at the end of the day, you will know how many clicks it had generated. **The number of daily clicks can vary quite a bit, but it should lie between 0 and 100 clicks.** **The banners lead to different amount of daily clicks on average.**

The average performance of a specific banner will not change during the simulation or with the number of times you click on it.

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Your objectives

After 100 days, top management will evaluate the efficiency of the offer based on the **total number of clicks** on the banner ads, irrespective of whether they come from banner A, B, or C.

Therefore, you need to:

1. Find the banner ad leading to most daily clicks, on average.
2. **Generate as many clicks as possible** during the 100 days period.

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The first business simulation

Next you will see a page with 3 buttons, labeled "Ad A", "Ad B", or "Ad C". Each button corresponds to a banner ad displayed on the xtremesports.com website for a day. **Each time you select a banner ad, you will see how many clicks it has generated on that day (between 0 and 100 clicks).** That number will be added to your overall performance.

To help you keep track of your performance, you will have access to a marketing dashboard that displays the daily performance of each banner, updated every time you choose to display a specific banner.

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Warm-up

Next, you will play the simulation for 10 rounds. It is just a warm-up. Your performance will not be tracked.

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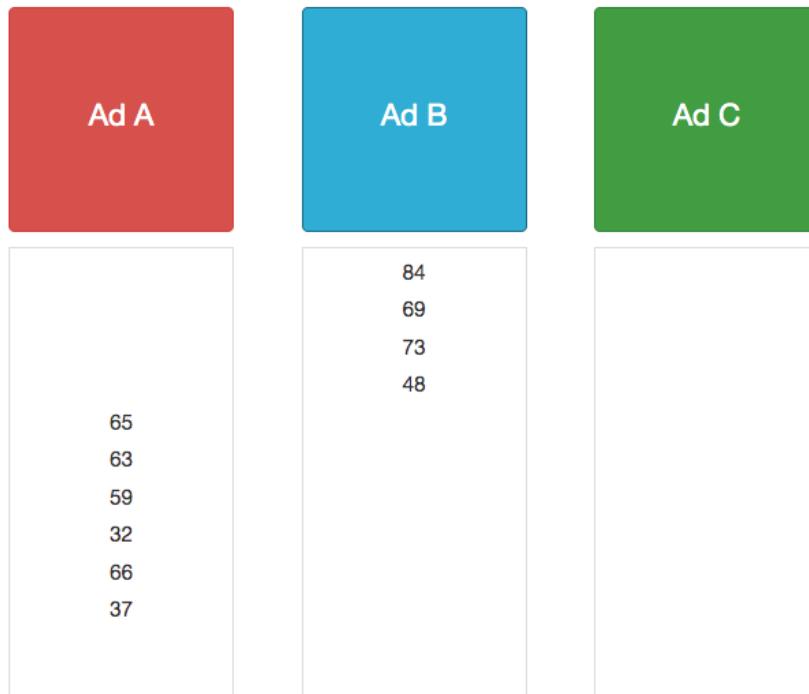
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Warm-up complete!

Total cumulated rewards: 596 ECU
Days left: 0

You have completed the warm-up.
Click on the next button to continue to the next page.

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The first business simulation

The banner ads were shuffled after the warm-up period, so any information related to the banners' performance that you gathered during warm-up is irrelevant.

From now on, **your performance will be tracked**. You will be paid according to your performance.

Reminder: Your objective:

- Find the banner ad leading to most daily clicks, on average.
- **Generate as many clicks as possible** during the 100 days period.

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First business simulation

Total cumulated rewards: 893 ECU
Days left: 83



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The second business simulation

You will now play a second business simulation, similar to the previous one. This time, you will be using **three new banner ads** that you redesigned.

Next you will see a page with 3 buttons, labeled "Ad D", "Ad E", or "Ad F". These are the new banner ads. Their **daily performance differs from the ones displayed in the first business simulation, but it still lies between 0 and 100 clicks**.

Reminder: Your objective remains the same:

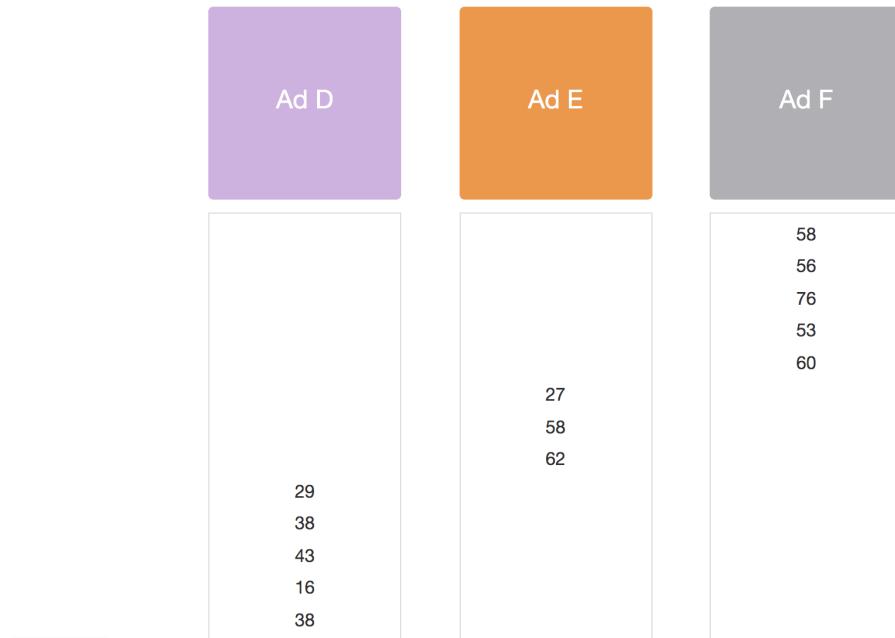
- Find the banner ad leading to most daily clicks, on average.
- **Generate as many clicks as possible** during the 100 days period.

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Second business simulation

Total cumulated rewards: 1677 ECU
Days left: 60



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Simulation Results

Your total score was 10699 ECU.

You have completed the first two parts of the study.

Your bonus so far is 3.57 £. We will add this to your earnings from the last part of the study.

Click on Next » to be redirected to the last part of the study.

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Preregistration link:

<https://aspredicted.org/2hp9q.pdf>

Study 3 – Learning across different time horizons

Page 1

Welcome! Thank you for participating in this study.

DESCRIPTION: We are researchers studying how people make decisions. In this study, you will first receive instructions on what to do, then you will make multiple rounds of decisions. Participation should take about **15 minutes**.

CONFIDENTIALITY: The information collected in this study will be used for scientific purposes. The data is reported anonymously. We will never share your Prolific ID or any other identifying information with others.

YOUR RIGHTS: Your participation is voluntary. You may stop participating and withdraw from the study at any time by closing this browser tab. Partial data will not be analyzed.

ETHICAL APPROVAL: This study has been approved by the Internal Review Board of the Erasmus Research Institute of Management, and is registered under the code 2020/06/08-58436afe..

CONTACT INFORMATION: In case you have any questions related to this task, please contact us at ferecatu@rsm.nl

CONSENT: By clicking Next >>, you agree to continue to the study.

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Page 2

Your task and your compensation

Your task consists of two parts:

- A business simulation.
- A survey

Your compensation is:

- Your hourly compensation, as advertised.
- **A bonus** – the amount depends on your decisions in both parts of the study.

Here are the compensation details:

- In the business simulation, we will use ECU (Experimental Currency Unit) as a monetary unit. **1500 ECUs are worth 1£**.
- We will convert your earnings from the business simulation from ECUs into £ using this conversion rate. We will add them to your bonus.
- The survey includes a short task where you can earn money. We will add the earnings for the survey to your bonus.
- At the end of the experiment, we will transfer your bonus into your Prolific account.

IMPORTANT : Please complete the task alone. Pay attention to the business simulation and survey questions. There will be an attention check.

- Do not use Google/Excel or any other external materials. It invalidates our experiment.
- Do not talk to others.

[Business simulation instructions »](#)

Page 3

The business simulation setup

You work at **xtremesports.com**, an e-commerce website specialized in sports apparel and equipment.

You are in charge of new product development and propose to introduce a new offer: sports magazine subscriptions.

Management gives you **200 days** to show the business potential of the new product. They give you a prominent **advertising space** on the home page of the **xtremesports.com** website to promote sports magazine subscriptions. If enough customers show interest by clicking on the **banner ad** you implement on the advertising space, the offer will be launched.

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The banner ads

You have designed three different banners, labeled "Ad A", "Ad B", and "Ad C".

Each day, you will decide which banner to display on the website, and at the end of the day, you will know how many clicks it had generated. **The number of daily clicks can vary quite a bit, but it should lie between 0 and 100 clicks.** **The banners lead to different amount of daily clicks on average.**

The average performance of a specific banner will not change during the simulation or with the number of times you click on it.

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Your objectives

After 200 days, top management will evaluate the efficiency of the offer based on the **total number of clicks** on the banner ads, irrespective of whether they come from banner A, B, or C.

Therefore, you need to:

1. Find the banner ad leading to most daily clicks, on average.
2. **Generate as many clicks as possible** during the 200 days period.

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The platform

Next you will see a page with 3 buttons, labeled "Ad A", "Ad B", or "Ad C". Each button corresponds to a banner ad displayed on the xtremesports.com website for a day. **Each time you select a banner ad, you will see how many clicks it has generated on that day (between 0 and 100 clicks).** That number will be added to your overall performance.

To help you keep track of your performance, you will have access to a marketing dashboard that displays the daily performance of each banner, updated every time you choose to display a specific banner.

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Warm-up

Next, you will play the simulation for 10 rounds. It is just a warm-up. Your performance will not be tracked.

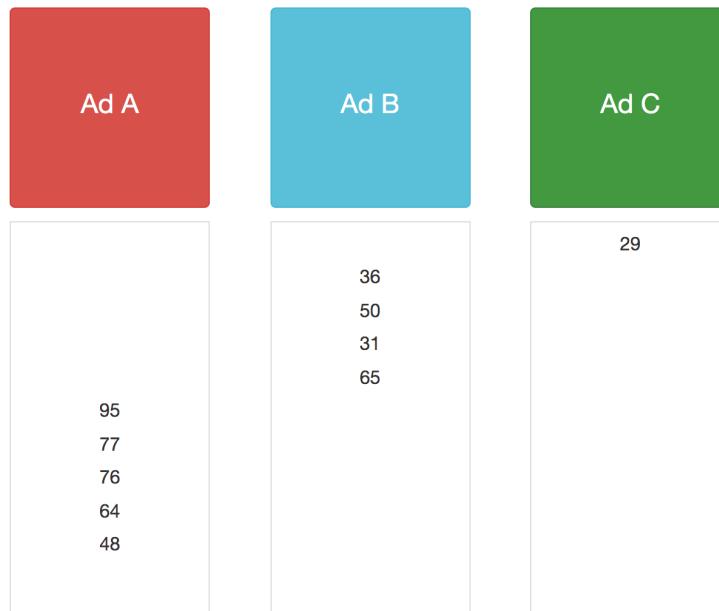
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Page 8
Warm-up complete!

Total cumulated rewards: 571 ECU
Days left: 0

You have completed the warm-up.
Click on the next button to continue to the next page.

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Business simulation

The banner ads were shuffled after the warm-up period, so any information related to the banners' performance that you gathered during warm-up is irrelevant.

From now on, **your performance will be tracked**. You will be paid according to your performance.

Reminder: Your objective:

- Find the banner ad leading to most daily clicks, on average.
- **Generate as many clicks as possible** during the 200 days period.

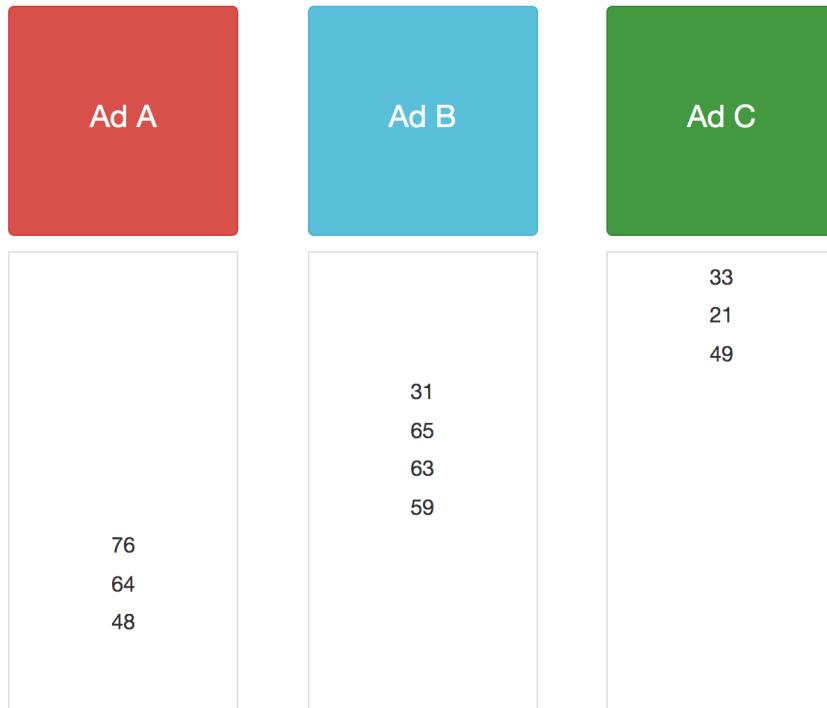
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Business simulation

Total cumulated rewards: 509 ECU

Days left: 190



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Simulation results

Your total score was 7101 ECU.

You have completed the first part of the study.

Your bonus so far is 4.74 £. We will add this to your earnings from the last part of the study.

Click on Next » to be redirected to the last part of the study.

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Preregistration link

<https://aspredicted.org/ya8hj.pdf>