



Information and Consent Form

Title of research project: Learning Optimization Models to Support Decision Making In Humanitarian Logistics

We invite you to participate in a survey associated with our game that aims to understand decision making during a disaster response. This game is an educational simulation tool that will contribute to the field of humanitarian logistics through the data collected.

Prior to consenting to this survey, please take the time to read the information provided.

The research project

The game simulates disaster response in a fictional region called Mennia, which is made up of multiple island countries. In the game, the player acts as an agency that coordinates disaster management operations in these countries. The game aims to inform players on the importance of investments in disaster resilience and preparedness, and how those investments impact the effectiveness of logistics operations.

The main objectives of this study are as follows.

Short term:

- Implement an interactive game about humanitarian operations triggered by damage caused by seasonal hurricanes
- Deploy a data collection tool about decision-making processes

Long term:

- Provide a learning platform for students and practitioners
- Mine data related to common policies practiced among agents
- Determine the most successful policies to maximize the demands met and minimize operational costs

In the context of this study, we are looking for individuals that both have and do not have prior knowledge on humanitarian logistics. An intermediate level of English proficiency is required to answer the questionnaire and play the game.

Nature and duration of your participation in the research project

The experiment will consist of a 20-minute online session. You will participate in two main activities: answering a questionnaire and playing a game. Data will be collected and sent to servers owned by Unity Analytics. All data will remain anonymous.

The questionnaire surveys work experience, study experience, and gaming activity. The questionnaire can be completed in about 2 minutes.

The remaining 18 minutes will consist of gameplay. You will be asked to make investments and logistics decisions to prepare and respond to hurricanes in a fictitious region.

A map of the region is presented in the game. It is made up of four island countries with different characteristics (e.g., population and economic conditions) and another country that is part of a continent. This geographic representation aims to depict the geography of hurricane scenarios that are typically encountered during the Atlantic hurricane season.

The game is split into two phases: (i) preparedness and (ii) response. The preparedness phase requires decisions about investments made prior to the hurricane season. During the response phase, you will have to manage resources during the hurricane season to serve the affected population(s) through the procurement, storage, transportation, and distribution of relief items. More information on the game is available at <https://thiagocorreiap.github.io/hurricane-game/>

Risks and inconveniences

Participation in the survey and game does not incur greater risks than those encountered in your regular daily life. The duration of the activity might be perceived as an inconvenience.

If you feel uncomfortable at any time during the survey, the activity can be paused at any time without any consequences.

The main purpose of our research is to collect data. Under no circumstances will the results be subject to judgment or criticism.

Benefits and Financial Compensation

You will receive no personal benefit or compensation for your participation. Your participation will help improve our understanding of humanitarian-logistics decision making.

Voluntary participation and option to cease participation

Your participation is voluntary. You are free to cease participation at any time. However, note that it will be impossible to delete any anonymous data once it has been provided, even if you

end your participation in the research project.

Confidentiality and protection of personal information

The research team will collect and store all data in a secure manner. Data will remain confidential.

The following is how we will protect your personal information **during collection**:

- Work, study, game experience and gameplay information will be encrypted and transmitted to servers through secure connections. If there is no internet connection immediately available, the encrypted data will be stored locally and sent to the servers once internet connection is established.

The following is how we will protect your personal information **during data analysis and transfer** between team members:

- Data will be stored on the servers with limited access and will be password protected. Only the research team will have access to the stored data.

The following is how we will protect your personal information **during publication of the results**:

- None of the collected data can be linked to the person from whom it was collected. The identity of the participants will be fully protected. None of the raw data will be published. Only results from our analyses will be published.

The following is how we will protect your personal information **after project completion**:

- Your data will be stored by the research team for a period of 7 years after the research project ends.
- Even after the research project ends, the data will remain restricted and protected by the same policies that were applied during the project.

Due to the anonymous nature of the data collected, you will not be able to view your data profile to verify the accuracy of the information gathered.

The data collected during this experiment can be used by future members of the research team to explore and investigate other hypotheses. The use of these data will be protected by the policies described above. Any secondary use of the data will be subject to ethical approval by the Research Ethics Board.

Dissemination of research results

The research results will be available through technical and scientific publications. Participants will have access to publications through the game's website:

<https://thiagocorreiap.github.io/hurricane-game/>

Compensation in the event of participant injury/damages

If your participation in the research project results in any injuries, you will in no way waive your legal rights, nor relieve the researchers, funding organizations, or Polytechnique Montréal of their professional and legal responsibilities.

Contact information

Research Team:

Responsible for the research activities

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If you have questions about the **scientific aspects** of the research project, or to **cease participation** in the study, please contact: Thiago Correia Pereira at (514) 340-4711, ext. 2122 or via email at thiago.pereira@polymtl.ca

For all concerns regarding your rights or the responsibilities of the research team related to your participation in this project, you can contact the *Comité d'éthique de la recherche* at Polytechnique Montréal at 514-340-4711, ext. 3830 or via email at: ethique@polymtl.ca

Research project funding

This project is funded by the Institute of Data Valorisation (IVADO) and the Natural Sciences and Engineering Research Council (NSERC).

Conflicts of interest

The research team does not have any conflicts of interest.

Consent

1. I have read and understood the attached document, which describes the nature and the process of the research project, as well as the risks and the inconveniences that this project may cause.
2. I understand that as a participant in this research project, I do not renounce any of my rights, nor do I waive the researchers' legal responsibilities.

“I accept” / “I refuse” buttons