

Title: Experimental outline and questions for Facility selection experiment I

Date of experiment: February 9, 10, 18, 2009

Location of experiment: Policy Grid Computing Laboratory,
D Block, Takatsuki Campus, Kansai University

Research coordinator: Shigeru Matsumoto, Associate Professor,
Aoyama Gakuin University

Research assistants: Tadahiko Murata, Associate Professor, Kansai University
Taiyo Maeda, PD, Kansai University

Subjects: Students of the Faculty of Informatics and graduate
students, Kansai University (8 subjects * 5 experiments)

Date of creation of handouts: August 3, 2009

Experimental outline

Subjects are asked to select one of two facilities. Upon their selection, they receive payment. If the facility is crowded, the subject receives less payment than if it is not crowded. At the time of selection, the subject's previous answer, as well as the payment received for that answer, is shown. The experiment is split into five sessions.

In each session, the information given to subjects and the formula used to calculate the payment varies. Subjects give thirty answers regarding the facilities in Figure 1 in each session. After receiving guidance regarding the experiment and the payment system, subjects answer the questions on a computer.



Figure 1: Screenshot of the screen on which subjects make their selections

Experimental conditions in each session:

It is assumed that both facilities provide an identical service. However, the cost of using the facility changes with the congestion level of the facility.

If subject i chooses “Facility A” and the number of the subjects who choose “Facility A” is n^A , then the payment (Unit: Japanese yen) is $v_i^A = 70 - c_k n^A$. Here, $c_k, k = \{x, y\}$ is the subject-specific cost of using the facility. In each experiment, 8 subjects are divided into 2 subgroups, x and y , each consisting of four people. The value of c_k is decided by both the subgroup and the number of sessions. The formula used to calculate the payoff is the same in both subgroups. If subject i chooses “Facility B”, then the payment is calculated as follows, $v_i^B = 70 - c_k n^B$, where $n^B = 8 - n^A$ is the number of the subjects who

chosen “Facility B”.

Session 1

Subject-specific cost: $c_x = 6, c_y = 6$

Information presented: previous selection and payment for previous selection

Session 2

Subject-specific cost: $c_x = 4, c_y = 8$

Information presented: previous selection and payment for previous selection

Session 3

Subject-specific cost: $c_x = 8, c_y = 4$

Information presented: previous selection and payment for previous question

Session 4

Subject-specific cost: $c_x = 4, c_y = 8$

Information presented: previous selection and payment, and the other payment

Session 5

Subject-specific cost: $c_x = 8, c_y = 4$

Information presented: previous selection and payment, and the other payment

Thank you for participating in the PG Laboratory experiment today. The aim of this experiment is to investigate how people's behavior changes when they are presented with different information. Before starting the experiment, please read the following passage.

Overview

Imagine a situation in which you are waiting for your turn in a line to obtain a service at a particular facility. For example, waiting your turn at an ATM or waiting to send a parcel at the postal office. In these situations, you will obtain the same service regardless of the facility. Therefore, it makes sense to choose the least crowded facility.

Instruction of this experiment

- ◇ In this experiment, we will ask you to choose one of the two facilities repeatedly.
- ◇ If you choose the facility that a small number of people choose, then the waiting time becomes shorter. Consequently, your payment becomes larger.
- ◇ Your cumulative payment constantly changes with your facility selection.
- ◇ The cumulative payment you obtained is shown on the PC screen in each period.
- ◇ The maximum payment you can obtain through this experiment is 9,600 yen while the minimum one is 3,300.
- ◇ After each session, please fill your payment in the prescribed form.
- ◇ In addition to the payment you will obtain through the experiment, you will receive 2,000 yen remuneration.

Cautions

1. All instructions are provided on the PC screen. When you cannot understand them, please raise your hand and ask your questions to the instructor directly.
2. Please do not talk to other persons during this experiment
3. Please do not look at the other persons screen during this experiment.
4. Once this experiment begins, you cannot go to the bathroom for about one hour. Please go to the bathroom now if you want to.

Experimental procedure

- ◇ In this experiment, you have to repeatedly choose one hospital from a selection of three.
- ◇ If you choose a hospital that is not chosen by others, waiting time for the patient will decrease, and you will receive more compensation.
- ◇ In other words, your remuneration depends on the degree to which the hospital you choose is crowded.
- ◇ The compensation you are due to receive will be shown at the end of the experiment.
- ◇ The experiment will be conducted 25 times for each of 4 patterns.
- ◇ The four patterns are made up of combinations of the following pieces of information: Size of the hospital (either all the same or all different) and Degree of crowdedness (known only by the hospital you choose or known by all hospitals)
- ◇ The maximum amount of compensation you can receive is 4,700 yen. The minimum is -1,176 yen.
- ◇ After each session please enter the amount of compensation you received on the prescribed form as per the guidance given by the instructors.
- ◇ In addition to the compensation you receive during the experiment, you will also receive 4,500 yen for your participation.

Thank you for your cooperation

Notes

1. All guidance for the experiment will appear on screen. If you do not understand something, please raise your hand high and ask an instructor directly.
2. Speaking to other participants during the sessions is strictly prohibited.
3. Looking at the computer screen of other participants during the sessions is strictly prohibited.
4. When the experiment has begun, it is not possible to take a break for any reason. Please make sure to use the toilet before the experiment begins, if necessary.