Decision Making

Experimental Methods for Management

Professor: Daniel Navarro-Martinez
Office hours: By appointment
Course Type: Elective
Credits: 4 ECTS
Term: 2nd Term

Course Description

"Decision Making: Experimental Methods for Management" is a second-term course in the MSc in Management, at the Barcelona School of Management. It comprises twenty 90-minute lectures, and it serves as a general elective course for students specializing in any of the tracks.

Objectives

The main goal of this course is to introduce the students to the use of **experimental methods** to study questions related to management.

Conducting experiments is one of the main methodologies used to do research both in the natural sciences (physics, chemistry, biology, medicine, etc.) and in the social and behavioral sciences (psychology, management, marketing, economics, etc.). Unlike the natural sciences, in the social sciences the object of study in experiments is people and their behaviors. In experiments, people are put in controlled environments, designed by the experimenters, to study their behavior and how it responds to the factors being investigated. Experiments are used to test scientific theories and ideas in a controlled way, but also to study applied questions, such as the effects of changes in a product, of an advertising campaign, a particular work environment, an incentive scheme, a website format, etc. The questions that can be studied with experiments are endless and are mostly limited by the imagination and the resources of the experimenters.

Experimental methods are being increasingly used around the world in the management of both private and public organizations. Prominent examples of this are divisions such as Microsoft Research and Yahoo Research, and government bodies such as the UK Behavioral Insights Team and the US Social and Behavioral Sciences Team, all partly dedicated to conducting and analyzing experiments.

In this course, the students will be introduced to the principles and tools they need in order to understand experiments and to carry out their own experiments to investigate questions they are interested in. A substantial part of the course will be of practical nature. Apart from the explanation and discussion of theoretical concepts, the students will participate in multiple experiments conducted by the professor, and they will also design and carry out experiments themselves.

Methodology

The course will be divided in two main parts:

1) In the first part, the professor will explain a series of concepts that are important to be able to understand and analyze different types of experiments and he will provide many examples of specific studies. He will also conduct multiple experiments with the students, so that they have the first-hand experience of participating in experiments and discussing them with the professor and the rest of the class. One of the sessions of this part will be devoted to a tutorial about Qualtrics, the software used in the course to conduct experiments. The last session of the first part will be a debate about a scientific paper that presents experimental results. The professor will encourage the students to actively participate in all the activities included in this part.

2) In the second part, the students will work in small groups to design and carry out two experiments per group. The first one will be a replication of a classic experiment that they will conduct in class, using the rest of the students as participants. The second one will be an original experiment created by the students, which they will pre-test in class and then run using a larger sample of participants.

Evaluation criteria

The evaluation of the course will consist of four elements:

1) PARTICIPATION: Class participation is an important element of the course that will help to clarify doubts and get the students used to discussing and critically analyzing experiments. Participation can take place in almost any moment: when discussing concepts explained in class, when analyzing experiments conducted by the professor, as part of the debate taking place in the last session of the first part, and also when discussing the experiments carried out by the students.

   Percentage: *20%*

2) REPLICATION EXPERIMENT: The students will conduct a replication of a classic experiment in small groups. They will have to design the materials for the experiment, run it in class, and explain the experiment and the results to the rest of the students, all following the instructions provided by the professor.

Percentage: *20%* (compulsory)

3) ORIGINAL EXPERIMENT: The students will also conduct an original experiment, in principle using the same groups. They will have to design the experiment, run a pre-test in class, explain the experiment to the rest of the students, and then run the experiment using a larger sample of participants, all following the instructions provided by the professor. In this case, the students will also have to write a short report explaining the experiment and the final results obtained.

   Percentage: *30%* (compulsory)

4) TEST: At the end of the first part of the course, there will be a basic test about the contents that have been covered in class in that part. This test is meant to make sure that the students have the basic knowledge they need to run their own experiments. The professor will clarify the details of the test in class.

   Percentage: *30%* (compulsory)

None of the components has a minimum grade.

There will be no exam in the regular exam period. Students who fail will have the chance to do a retake exam about the contents of the course. In this case, the grade of the exam will be the final grade.

Following the school policy, students are required to attend at least 80% of the classes. Failing to do so without justified reason will imply a grade of zero in the participation/attendance evaluation component and may lead to suspension from the program.

Students who fail the course in the regular evaluation are allowed one retake in the conditions specified above. If the course is failed again, the student will need to register for the course the following year.

In case of a justified no-show to an exam, the student must inform the corresponding faculty member and the director(s) of the program so that they study the possibility of rescheduling the exam (one possibility being during the retake period). In the meantime, the student will get an "incomplete," which will be replaced by the actual grade after the final exam is taken. The "incomplete" will not be reflected on the student's Academic Transcript.

Plagiarism is to use another's work and present it as one's own without acknowledging the sources in the correct way. All essays, reports or projects handed in by a student must be original work completed by the student. By enrolling at any UPF BSM Master of Science and signing the "Honor Code," students acknowledge that they understand the schools' policy on plagiarism and certify that all course assignments will be their own work, except where indicated by correct referencing. Failing to do so may result in automatic expulsion from the program.

Contents and Schedule

Here is a list of the topics that will be covered in the first part of the course (the exact meaning of each topic will become clear during the course):

1) Introduction: The basics of experimentation
2) Decision making under risk and uncertainty
3) Prospect Theory
4) Choice architecture
5) Consumer behavior
6) Organizational behavior
7) Social psychology

Slides and other materials used in class will be uploaded to the eCampus before the corresponding sessions or given to the students in class.

Here is a tentative session plan, which will be subject to changes depending on class dynamics:

SESSIONS 1 to 3	- *Introduction: the basics of experimentation*
SESSIONS 4 & 5	- *Decision making under risk and uncertainty*
SESSIONS 6 & 7	- *Prospect Theory*
SESSIONS 8 & 9	- *Choice architecture*
SESSION 10	- *QUALTRICS TUTORIAL*
SESSION 11	- *Consumer behavior*
SESSIONS 12 & 13	- *Organizational behavior*
SESSION 14	- *Social psychology*
SESSION 15	- *DEBATE*
SESSION 16	- *TEST*
SESSIONS 17 & 18	- *Student experiments: Replication*
SESSIONS 19 & 20	- *Student experiments: Original*

Reading Materials/Bibliography/Resources

The professor will provide the students with specific bibliographical references and additional materials during the classes, so that they can go in more depth into the different topics and experiments covered.

Short Bio of the Professor

Daniel Navarro-Martinez (PhD) is an Associate Professor in the Department of Economics and Business at Universitat Pompeu Fabra, and an Affiliated Professor at the Barcelona School of Economics and the Barcelona School of Management. Before coming to Barcelona, he held positions at the University of Warwick (UK) and the London School of Economics and Political Science (UK). He does research in the fields of behavioral economics and judgment and decision making. His research has been published in leading scientific journals, such as Management Science, the Journal of Marketing Research, Perspectives on Psychological Science, Social Science & Medicine, the Journal of Service Research, Games and Economic Behavior, the Journal of Risk and Uncertainty, Judgment and Decision Making, the Journal of Economic Psychology, and Theory and Decision.