Nanyang Technological University

Nanyang Business School

BU8644: SMARTER BRAIN: THE SCIENCE OF DECISION MAKING

A) Course Aims/Description

Effective decision making is an essential skill everyone should have. Forward-looking corporations such as Barclays, Walmart, and Procter and Gamble, as well as governmental agencies in the United States and Singapore are now applying insights from the principles of behavioural decision science to guide the design of products and services and even policy. This course is specially designed to help students understand how humans (consumers, doctors, accountants, policy makers, managers, parents, and students themselves) make -good or bad- decisions. Ever since Daniel Kahneman was awarded the Nobel Memorial Prize in Economic Sciences in 2002, we have a more accurate understanding of the fact that people do not necessarily obey rational rules in making decisions. This does not mean that decisions are made randomly; on the contrary, an alternate set of rules is at play. Even though the human brain is capable of making millions of calculations per second, it cannot avoid the influences of these biases. Research in cognitive sciences, psychology, behavioural economics and decision neuroscience is guiding us to a fuller understanding of how decisions are made by people. Empowered with this nowledge, you (students) will not only improve your own decision making but also explore ways to design organizations that help people make better decisions. You will learn the decision-making processes and biases that impact choice behaviour. Examples include but not limited to: What are examples of irrational decision making and what are the reasons of this behavior? How do customers make their purchase choices? How do people decide to save (or not)? How do we persuade people to climb the stairs instead of using the elevator? How do our biology and brain influence our decision making? How does the environment influence our behaviour? How does the brain assess risk, trust, time? Overall, you will develop strategic awareness about the biases that could influence judgment and lead to suboptimal decisions.

B) Intended Learning Outcomes (ILO)/Objectives

By completing this course, the student should be able to

1. Identify and explain the basic decision making biases
2. Propose basic methods for assessing and interpreting decision making parameters (such as risk preferences)
3. Demonstrate how cognitive biases can be used to "nudge" better behaviour and decision making
4. Illustrate how social values such as fairness and trust affect decision making
5. Explain the role of emotions in human decision making
6. Apply behavioural science in various real life business (or other) questions
7. Explain the neurobiology behind decision making
8. Motivate and influence others
9. Demonstrate interpersonal skills and teamwork

The course will naturally improve ethical reasoning, critical thinking, decision making and planning.

C) Assessment (includes both continuous and summative assessment)

Component	Weigh-tage	Team/ Individual
Final Examination	40%	Individual
Group Demonstrations of Decision making biases:	40% Content: 20% Presentation: 10% Working as a team: 10%	Group
Knowledge Community: Facebook and In-Class Interaction:	20%	Individual
Total	100%	

D) Weekly Schedule

Week	Topic
1	What is decision making? Components of decision making: system 1 vs system 2
2	Priming and memory biases
3	Framing, "baits" in decision making. What is a nudge?
4	Anchoring, familiarity, faces and beauty; what is intuition?
5	Field trip
6	Procrastination, self control, temporal discounting, how we perceive events over time
7	Group presentations
8	Risk attitudes: behavior and the brain, probabilities, framing, loss aversion
9	Social elements: social comparison, competition and cooperation, behavioral game theory
10	Neuroscience of decision making and related methods; biology, hormones, skin conductance, heart rate
11	Cultural differences in decision making; Emotions
12	Neuroscience of decision making and related methods; biology, hormones, skin conductance, heart rate -II
13	Group presentations