Decision Making and Cognitive Biases

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1 Introduction

Today's lecture focused on decision making, a cognitive task that we encounter daily. The importance of understanding decision making extends beyond human behavior to include animal behavior and its implications in economics, particularly in the field of behavioral economics.

2 Decision Making in Economics

2.1 Rational Agents

Classical economics assumes that humans are rational agents who make optimal decisions to maximize benefits or profits. However, research in the 1960s and 70s revealed that human decision making often deviates from this rational model.

2.2 Behavioral Economics

This deviation led to the emergence of behavioral economics, which examines how psychological factors influence economic decisions. Key figures in this field include Daniel Kahneman, a Nobel Prize winner, and Herbert Simon, who introduced the concept of bounded rationality.

3 Cognitive Biases

3.1 Definition and Examples

Cognitive biases are systematic deviations from rationality in judgment and decision making. Examples include:

- Framing Effect
- Confirmation Bias
- Availability Heuristic

3.2 Judgment and Decision Making

Judgment is the process leading to decision making, influenced by various factors such as risk, reward, and uncertainty. Everyday decisions, such as choosing courses or making purchases, illustrate the complexity of this process.

4 Rational Analysis Framework

4.1 Overview

Rational analysis is a framework for understanding human behavior under uncertainty. It posits that while humans may not always behave rationally, analyzing behavior through the lens of rationality can yield insights into decision-making processes.

4.2 Key Components

The framework involves:

- Specifying optimal strategies for decision making.
- Considering the environment and its uncertainties.
- Acknowledging computational limitations, such as memory constraints.

5 Heuristics and Biases

5.1 Heuristics

Heuristics are mental shortcuts that simplify decision making, often leading to biases. They can provide quick solutions but may overlook relevant evidence.

5.2 Cognitive Biases vs. Heuristics

While cognitive biases refer to deviations from rational behavior, heuristics are strategies that can lead to these biases. Understanding this distinction is crucial for analyzing decision-making processes.

6 Prospect Theory

6.1 Introduction

Prospect theory, developed by Kahneman and Tversky, describes how people make decisions involving risk. It challenges the notion of expected utility by introducing concepts such as loss aversion and diminishing sensitivity.

6.2 Key Concepts

- **Loss Aversion:** Losses have a greater emotional impact than equivalent gains.
- **Diminishing Sensitivity:** The value of gains and losses diminishes as their magnitude increases.
- **Overweighting of Improbable Events:** People tend to overestimate the likelihood of rare events.

6.3 Experimental Examples

The lecture included examples of decision-making scenarios, such as joint bets, to illustrate how framing and context influence choices. Participants often favored certain outcomes over probabilistic ones, demonstrating the impact of cognitive biases.

7 Conclusion

The lecture emphasized the importance of understanding decision making through the lens of rational analysis and cognitive biases. By examining how actual behavior diverges from rational models, we can gain insights into the complexities of human decision making.