Chapter 3: Decision Making

- Decision making: the process of developing a commitment to some course of action
- We are rational and free to make our own decisions we behave a s predicted by the rational choice theory (The classical view that we make decisions by determining how likely something is to happen, judging the value of the outcome, and then multiplying the two
- Three things are noteworthy about decision making
  - Making a choice among several action alternatives
  - It is a process
  - Involves a commitment of resources
- Can also be described as a process of problem solving
  - A problem exists when a gap is perceived between some existing state and some desired state
- Well structured problems
  - Everything is clear- the problem and how it can be solved
  - Simple and straightforward problems
  - Problems can be familiar, they may occur with some frequency
  - Standard way to solve the problem (can have a protocol > returning something at a shop)
  - We can create a program to solve the problem
    - Programs short-circuit the decision-making process by enabling the decision maker to go directly from problem identification to solution
      - They are also known as rules, routines, standard operating procedures, or rules of thumb
      - Useful means of solving well structured problems
      - Programs are only as good as the decision-making process that led to the adoption of the program in the first place
      - “Garbage in” will result in “garbage out”
- Ill-structured problems
  - A problem for which the existing and desired states are unclear and the method of getting to the desired state is unknown
  - They are unique and unusual problems that have not been encountered before
  - They tend to be complex and involve a high degree of uncertainty
  - They frequently arouse controversy and conflict
  - Cannot be solved with programmed decisions
  - Decision makers must resort to non-programmed decision making
  - Can entail high risk and stimulate strong political considerations
  - A rational decision maker might use a model that involves a sequence of steps that are followed when making a decision
    - When a problem is identified , a search for information is begun
    - Information clarified the nature of the problem ad suggests alternative solutions
    - These are carefully evaluated , and the best is chosen for implementation
    - The implemented solution is monitored over time
    - If difficulties occur at any point in the process, reputation or recycling may be affected
- Roles of a manager
  - **Planning**
    - Make a decision
  - Organize

    - Hire staff
  - Lead
    - Motivate staff
  - Control
    - Did we meet the planned goal?
- Rational decision making: two forms of rationality
  - Perfect rationality
    - Is a decision strategy that is completely informed, perfectly logical, and oriented towards economic gain.
    - The prototype for perfect rationality is the Economic Person (logical, perfect, cool, calculated decision maker)
      - Can gather information without cost and is completely informed
      - is perfectly logical
      - Has only one criterion for decision making: Economic gain
      - Do not exist
  - Bounded rationality
    - Herbert Simon recognized that rational characteristics of Economic Person do not exist in real decision makers
      - Suggested use of bounded rationality rather the perfect rationality
    - Definition: Decision strategy that relies on limited information and that reflects time constraints and political considerations that act as bounds to rationality
    - We are good at looking at frequency, but horrible at thinking in terms of probability
      - Frequency format hypothesis:Proposal that our minds evolved to notice how frequently things occur, not how likely they occur
    - Framing and cognitive biases illustrate the operation of bounded rationality, as does the impact of emotions and mood on decisions
      - Framing (the context in which we place it [positive or negative])
        - Refers to the aspects of the presentation of information about a problem that are assumed by decision makers
        - How information is presented can have an impact or perception of information
        - Sunk-cost fallacy: Framing an effect in which people make decisions about a current situation based on what they have previously invested in the situation
          - Invested so much that you feel like you need to do it
        - Prospect theory: People choose to take on risk the evaluating potential losses and avoid risks when evaluating potential gain
        - Optimism bias more present i the USA: Means they believe that good things are most likely to happen in the future 9bad things are less likely to happen to them)
        - How problems and decision alternatives are framed can have a powerful impact on a resulting decisions
        - Look at cost and benefit
      - Cognitive short cuts/Cognitive biases
        - Tendencies to acquire and process information in a particular way that is prone to error
        - Constitute assumptions and shortcuts that can improve decision-making efficiency, but they frequently lead to serious errors in judgement
- Kahneman and Tversky
  - Known for decision making and heuristics
  - Kahneman won noble prize for economics
  - Tversky could not be awarded the nobel prize because he had died and the Nobel Prize is not awarded posthumously

- Heuristics
  - Short cuts
  - Ways of trying to get to the answer quickly
  - Rules of thumb
    - Like using your thumbs was being close to an inch measure (estimations)
      - The widget is about x inches because it is about x thumb lengths
    - Using your thumb to get an estimate of the size/situation
  - Problems with heuristics
    - Estimations are not necessarily accurate
    - We can make errors due to
      - Availability
        - Information that is available to you thanks to your surroundings
          - Friends are all getting divorced so thinks everyone is
          - Hear more about death form plane crash so think there is much more then there actually is
          - More words with r as a third letter then that starts with r > easier to think about words that starts with r so think there is more words that start with r
        - Memory strength and frequency of occurrence are strongly link
          - The more you remember something happening the more you likely you think it happen often
      - Representativeness
        - Our experience colours our thinking
        - Think about stereotypes and disregard data regarding probability or the likelihood that something will occur
        - Compare things to the prototype have of them our heads
      - Conjunction fallacy: When people think that two events are more likely to occur together than either individual event
- People with a damaged prefrontal cortex are most likely to make bad gambling decisions