

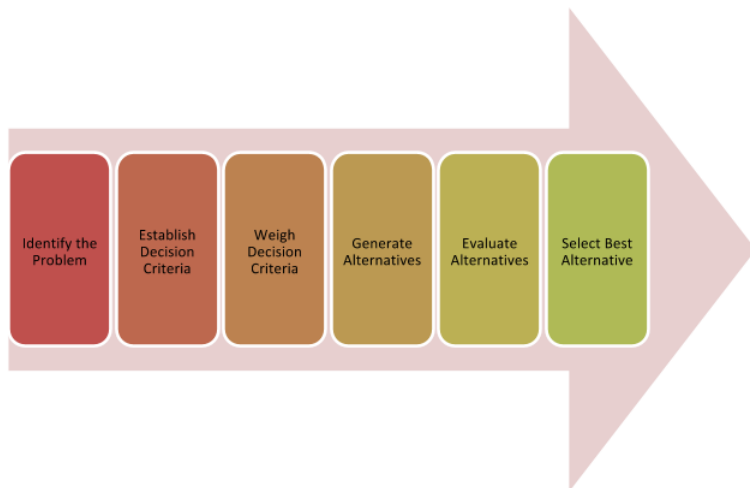
5.14: Rational Decision Making vs. Other Types of Decision Making

Learning Outcomes

- Summarize the steps in the rational decision-making process.
- Differentiate between prospect theory, bounded rationality, heuristics, and robust decisions.

The Rational Decision-Making Process

The rational decision-making process involves careful, methodical steps. The more carefully and strictly these steps are followed, the more rational the process is. We'll look at each step in closer detail.



Step 1: Identify the Problem

Though this starting place might seem rather obvious, a failure to identify the problem clearly can derail the entire process. It can sometimes require serious thought to find the central issue that must be addressed. For example, you have taken a new job and you may initially decide you need to find a new car for commuting back and forth from work. However, the central problem is that you need a reliable way to commute to and from work.

Step 2: Establish Decision Criteria

In this step, the decision maker needs to determine what is relevant in making the decision. This step will bring the decision maker's, and any other stakeholder's, interests, values and preferences into the process. To continue our example, let's assume you are married. Some of the criteria identified might include budget, safety, functionality, and reliability.

Step 3: Weigh Decision Criteria

Because the criteria identified will seldom be equally important, you will need to weight the criteria to create the correct priority in the decision. For example, you may have weighted budget, safety, and reliability as the most important criteria to consider, along with several other slightly less critical criteria.

Step 4: Generate Alternatives

Once you have identified the issue and gathered relevant information, now it is time to list potential options for how to decide what to do. Some of those alternatives will be common and fairly obvious options, but it is often helpful to be creative and name unusual solutions as well. The alternatives you generated could include the types of cars, as well as using public transportation, car pooling and a ride-hailing service.

Step 5: Evaluate Alternatives

After creating a somewhat full list of possible alternatives, each alternative can be evaluated. Which choice is most desirable and why? Are all of the options equally feasible, or are some unrealistic or impossible? Now is the time to identify both the merits and

the challenges involved in each of the possible solutions.

Step 6: Select the Best Alternative

After a careful evaluation of alternatives, you must choose a solution. You should clearly state your decision so as to avoid confusion or uncertainty. The solution might be one of the particular options that was initially listed, an adaptation of one of those options, or a combination of different aspects from multiple suggestions. It is also possible that an entirely new solution will arise during the evaluation process.

? Practice Question

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Data, Logic, and Facts

Rational decision making is defined not only by adherence to a careful process, but also by a logical, data-driven manner of following the steps of that process. The process can be time-consuming and costly. It is generally not worthwhile on everyday decisions. It is more useful for big decisions with many criteria that affect many people.

In the evaluation stage, the process usually requires numeric values. The next stage will use these to calculate a score for each alternative. Some properties are not easily measured, and factors that rely on subjective judgment may not be trusted. If they are not fully weighted, the final analysis will lean toward whatever is easiest to measure. In a company, the final decision usually belongs to an executive, who takes the analysis as a guide but makes his own decision.

Ideas that Complement and Contrast with Rational Decision Making

Though most decision makers will recognize much that is commendable in the rational decision-making process, there are also reasons to consider complementary or even contrasting ideas. Taken to its extreme, the rational method might entirely discount factors that are of known and obvious value, such as emotions and feelings, experience, or even ethical principles. This danger, along with other limitations of the rational method, has led to the development of the following concepts to provide a more balanced and holistic approach to decision making.

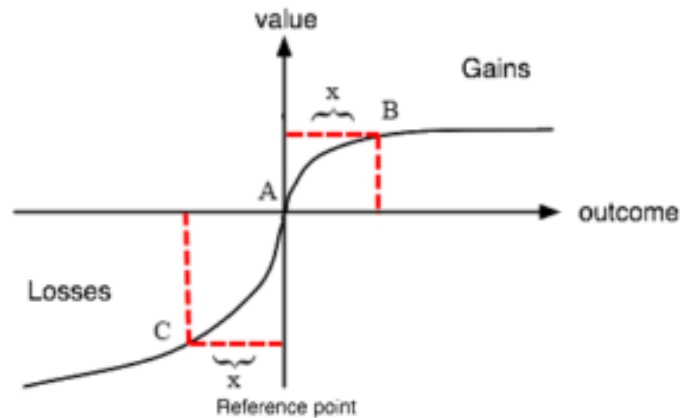
Prospect Theory



Daniel Kahneman is one of the developers of prospect theory.

An epoch-making idea in the field of behavioral economics, prospect theory is a complex analysis of how individuals make decisions when there is risk involved. Most strictly rational approaches to questions of financial risk rely on the principle of expected value, where the probability of an event is multiplied by the resulting value should the event occur. Notice the numerical and logical approach to that analysis.

However, Daniel Kahneman and Amos Tversky, the developers of prospect theory, demonstrated through various experiments that most people alter that approach based on their subjective judgments in any given situation. One of the common examples of this is that many individuals think differently about the risk of financial loss than they do when considering situations where different levels of financial gain are concerned. In a purely rational approach, the numbers and calculations involved work the same way regardless of whether the situation is one involving potential gain or potential loss.



This graph shows how prospect theory describes individuals' subjective valuations of profit and loss. Notice that the value curve is not a straight line and that the positive "gains" section of the curve is not symmetrical to the negative "losses" section of the curve.

Prospect theory is a description of how people made actual decisions in experiments. It doesn't say whether this is right or wrong. It is in the hands of decision makers to determine whether these tendencies are justifiable or if they should be overridden by a rational approach.

Bounded Rationality

Another theory that suggests a modification of pure rationality is known as bounded rationality. This concept revolves on a recognition that human knowledge and capabilities are limited and imperfect. Three specific limitations are generally enumerated:

- Decision makers do not have access to all possible information relevant to the decision, and the information they do have is often flawed and imperfect.
- Decision makers have limited analytical and computational abilities. They are not capable of judging their information and alternatives perfectly. They will inevitably make misjudgments in the evaluation process.
- Decision makers do not have unlimited time to make decisions. Real-life situations provide time constraints in which decisions must be made.

In light of these limitations, the theory of bounded rationality suggests that decision makers must be willing to adapt their rational approach. For example, they must determine how much information is reasonable to pursue during the information-gathering stage; they cannot reasonably expect to gather and analyze all possible information.

Similarly, decision makers must content themselves with a consideration of only a certain number of alternative solutions to the decision.

Also, decision makers being far from perfect in their abilities to evaluate potential solutions must inevitably affect their approach. They must be aware of the possibility that their analysis is wrong and be willing to accept evidence to this effect. This especially includes situations in which they're relying on predictions of an uncertain future. Uncertainty and inaccuracy often arise in efforts to predict the future. For example, your career decision is fraught with uncertainty as you don't know if you will like the work or the work environment. What are decision makers to do when they are uncertain about potential results from their actions? This makes a strictly rational approach difficult and less reliable.

Heuristics

One of the approaches that might stem from a recognition of bounded rationality is the use of heuristics. These are analytical and decision-making tools that help simplify the analysis process by relying on tried and tested rules of thumb. A heuristic simplifies a complex situation and allows the decision maker to focus only on the most important pieces of information.

For example, a business might use their proven experiences and that of many other companies to conclude that a new product line requires a certain amount of time to gain market share and become profitable. Though there are many complex factors involved in market analysis, the business might use this proven rule to guide its decision making. When a proposed decision contradicts this rule, the company might discard it even if a complex and seemingly rational analysis might seem to support it.

Of course, there are exceptions to most rules, and the use of heuristics might prevent a company from following courses of action that would be beneficial. Likewise, heuristics that were once reliable rules might become obsolete because of changing markets and environments. Nonetheless, most analysts recognize heuristics as useful tools when used properly.

Robust Decisions

One final adaptation of the rational process that is becoming more prominent, especially in areas such as energy production and natural resource preservation, is the practice of making “robust” decisions.

Robust decisions revolve around the inability to predict the future with certainty. Rather than rely on an imperfect analysis to determine the “best” decision, a robust decision provides a plan that will work in light of numerous uncertainties. It supposes that a number of situations are all possible and provides a solution pathway that will be successful if any of those situations should arise. This pathway could potentially be a single solution that works in any of the likely future scenarios, or it might provide separate responses to be enacted depending on how the future uncertainties unfold.

? Practice Questions

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