Definition: decision-making from *The Macquarie Dictionary*

1. the process by which a person arrives at a decision, blending knowledge, experience and intuition.

2. the making of major decisions, as in the area of government, administration, business, etc.

3. adjective /d7's157n-me1k19/ /duh'sizhuhn-mayking/

of, relating to, or conducive to the process of decision-making.

Summary Article: Decision Making
From *Encyclopedia of Social Psychology*

**Definition**

Decision making refers to the act of evaluating (i.e., forming opinions of) several alternatives and choosing the one most likely to achieve one or more goals. Common examples include deciding for whom to vote, what to eat or buy, and which college to attend. Decision making plays a key role in many professions, such as public policy, medicine, and management. The related concept of judgment refers to the use of information, often from a variety of sources, to form an evaluation or expectation. One might imagine that people’s judgment determines their choices, though it is not always the case.

**Background**

Theories of decision making were originally developed by philosophers, mathematicians, and economists, who focused on how people make choices to achieve often conflicting goals. Following the work of early theorists such as John von Neumann and Oskar Morgenstern and Leonard Savage, a theory called *subjective expected utility theory* has become particularly influential. This theory distinguishes between the decision maker’s values (otherwise called his or her *utilities*) and expectations or beliefs. The key assumption is that people select the option that is associated with the highest overall expected utility. In plain terms, you pick the best option, and so decision making is about figuring out what is the best choice.

Expected utility theory and decision theory have focused on normative aspects (i.e., what people should do), whereas *behavioral decision theory* and the general field of behavioral decision making have focused on descriptive aspects of decision making (i.e., what people actually do to form judgments and make choices). It is noteworthy that, although expected utility theory was derived from economic principles of rational behavior rather than based on studies of human behavior, economists and researchers in many other fields have assumed that the theory also describes actual behavior and that departures from rational choice would eventually correct themselves based on learning and external forces.

This assumption, in turn, led to a great deal of behavioral decision research, which has documented a
wide range of violations of utility maximization, that is, cases in which people pick something other than what is objectively the best option. Thus, research findings have often been seen as interesting to the extent that they appeared surprising and inconsistent with expected utility theory. Such research has shown that expected utility theory is often inadequate. Furthermore, the theory does not address many of the key aspects of judgment and decision making, such as the selection of information and options to be considered, the manner in which a decision maker might trade off the considered attributes of the options, and the impact of affective and social factors. Moreover, expected utility theory does not address the process of judgment and decision making.

A cognitive scientist named Herbert Simon introduced the concept of bounded rationality, which is an idea that takes into account the fact that people only have a limited cognitive ability to process information. Because of limited processing ability, instead of maximizing utility (i.e., picking the objectively best option), people may *satisfice*; that is, they may choose an option that is good enough, even though it may often not be the overall best. Limited cognitive capacity also implies that people will tend to rely on shortcuts or simplifying strategies, referred to as *heuristics*, which typically produce satisfactory decisions, though in some cases they may produce errors.

Despite the initial emphasis on demonstrating violations of rationality and expected utility theory, behavioral decision theory research has become more psychological and process oriented. Thus, following research in social and cognitive psychology, researchers have started employing various process measures (e.g., verbal protocols) and manipulations that were designed to provide a better understanding of the processes underlying judgment and choice.

**Constraints on Effective Judgment and Decision Making and Insights Into How Judgments and Decisions Are Made**

Behavioral research on judgment and decision making has documented numerous violations of normative models that were previously relied upon. The following discussion briefly reviews a few important examples.

**Judgment Heuristics and Biases**

The theory of rational choice has assumed that people are generally capable of computing and making unbiased judgments. However, a great deal of research has demonstrated that people’s assessments of probabilities and values are often inconsistent with basic laws of probability. Going beyond the notion of bounded rationality, psychologists Amos Tversky and Daniel Kahneman advanced three heuristics that play a key role in intuitive judgments of probabilities, magnitudes, and frequencies: representativeness, availability, and anchoring. According to the *representativeness heuristic*, people judge the likelihood that X is a Y based on their assessment of the degree to which X resembles Y. For example, when assessing the likelihood that a student specializes in poetry, people assess the similarity between that student and the prototypical poet.

The *availability heuristic* indicates that people assess the frequency and probability of an event or a characteristic based on the ease with which examples come to mind. For example, in one demonstration, a group of respondents estimated the number of seven-letter words (in a few book pages) that end with *ing*, whereas a second group estimated the number of seven-letter words with *n* in the sixth position. Consistent with the availability heuristic, the former estimate was much higher than the latter (even though any seven-letter word that ends with *ing* necessarily has *n* in the sixth position).
Anchoring refers to a process of assessing values whereby people who start from an anchor tend to end up with a value that is close to the initial anchor. For example, people estimated that Gandhi lived until the age of 67 after being asked if he died before or after the age of 140, whereas those asked if he had died before or after the age of 9 estimated that he had died at the age of 50. Similar anchoring effects have been observed even when the anchor was clearly arbitrary, such as when people make an estimate by deciding whether the true value is above or below the last two digits of their own social security number.

Prospect Theory

Kahneman and Tversky's prospect theory represents an influential, comprehensive attempt to revise and address key violations of the standard expected utility model. That is, those two researchers tried to formulate a general explanation of the reasons people fail to make the best choice. Options are evaluated as gains or losses relative to a reference point, which is to say that it is not the absolute effect that matters but whether the event has positive or negative implications for one's current standing. This has often been applied to money: The data show that it's not the same to gain $10,000 for a poor person as it is for a rich person, because the gain is much greater for the person whose current wealth is very little.

In general, most people tend to be risk averse for gains and risk seeking for losses. Risk aversion can be thought of like this: A person facing two options, one of which is a surer bet but has a smaller payout compared to the other, which is more uncertain to be obtained but with a larger payout, would be predicted to choose the option that will bring a surer but smaller payout. Risk seeking (or risk tolerance it is also called) is the opposite. Imagine a person facing a choice between two options, one of which is more certain to happen. Prospect theory and many experiments that have tested it have shown that people prefer the larger (riskier) loss that has less certainty to happen.

Another important point from prospect theory is loss aversion—losses have a greater impact psychologically than similar gains. In other words, losing $500 hurts a lot more, psychologically, than finding $500 brings pleasure. The property of loss aversion is related to endowment effect and the status quo bias.

The Construction of Preferences

A great deal of decision-making research since around 1975 has led to a growing consensus that preferences for options are often constructed when decisions need to be made, rather than when they are retrieved from a master list of preferences stored in memory. This means that people tend to make decisions because of “on-the-spot” feelings or ideas rather than some deep, ingrained beliefs that they constantly use to make choices. This means that choices are sensitive to the framing of the options, the choice context, and the preference elicitation task.

With respect to framing, it has been shown, for example, that (a) framing options as losses rather than as gains leads to more risk-seeking preferences, and (b) framing (cooked) ground beef in terms of how lean it is (e.g., 80% lean) rather than how much fat it contains (20% fat, even though that conveys the same message about the meat as 80% lean) produces more positive evaluations of the beef’s taste. Regarding the impact of the choice context (or choice set configuration), it has been shown that adding an asymmetrically dominated option (e.g., adding an unattractive pen to a choice set consisting of an attractive pen and $6 in cash) increases the share of the dominating option (the attractive pen).

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It has also been shown that an option often is chosen more often, relative to how often other options are chosen, when there is a “compromise” (a middle) option in the set. With respect to the preference elicitation task, studies have shown, for example, that performing what is called a matching task (i.e., the person is asked to enter a value that makes two options equally attractive) leads to different preferences than when people simply perform a choice task—despite the fact that the options that are presented are the same, and the only difference is the method used by the person to evaluate the options. Similarly, ratings or evaluations of individual options tend to produce systematically different preferences than choices or other tasks involving joint evaluation of options.

**Current Directions in Decision Research**

As the question of whether expected utility model adequately describes decision making has been largely resolved, decision researchers have tried to gain a better understanding of how decisions are actually made, often using various process measures and task manipulations. Furthermore, researchers have examined a wider range of judgment and decision-making dimensions and have addressed topics that were previously regarded as the domain of other fields, such as social and cognitive psychology and business administration.

**Process Measures**

Whereas earlier decision research was focused on the outcomes of decisions, it has become clear that decision processes can provide important insights into decision making, because they are influenced by task and option variations that may often not influence decision outcomes. It was initially assumed that decision makers apply particular decision rules, such as forming an evaluation of an option by adding the positive aspects of that option and subtracting the negative aspects (e.g., weighted additive [compensatory] model), or by choosing important aspects of the decision and then choosing based on whether options do or do not reach a certain cutoff in that domain (e.g., conjunctive rule, or lexicographic decision rules). However, consistent with the notion of constructed preferences, subsequent research has shown that decision makers typically combine fragments of decision rules, such as starting by eliminating options that do not meet certain standards and then using the adding positives/subtracting negatives compensatory rules to evaluate the remaining options.

Early process-oriented decision research relied largely on process measures, such as response latencies, the percentage of intradimensional versus interdimensional comparisons, and verbal protocols. Such measures can provide rich data, though concerns might arise whether the behavior and responses that are captured accurately represent naturally occurring decision processes. A complementary research approach, similar to many studies in psychology, is to rely on task conditions (e.g., cognitive load, time pressure), stimulus manipulations, and individual differences from which one could infer the underlying decision processes and moderators of the observed decision outcomes.

**The Role of Affect in Decision Making**

Most decision research has focused on what might be seen as objective evaluation of options based on attributes such as the probability of winning and the payoff. However, there is a growing recognition that decisions are often influenced by the affective reactions to options. Affect refers to the emotional reaction to the “goodness” (or attractiveness) of options, which is often triggered automatically without much (or any) thought. It has been suggested that such automatic, affective reactions are often the main drivers of judgments and decisions, with conscious, deliberate arguments merely serving to explain those decisions. Researchers have used a wide range of methodologies to
examine the role, primacy, and speed of affective reactions to decision stimuli, such as subliminal priming, the observation of patients whose affective processing ability was damaged, and the impact of putting respondents in a positive or negative mood.

The Two-System View of Judgment and Decision Making

Evaluations based on automatic, affective reactions belong to a broader class of judgments and decisions that tend to be done intuitively and automatically, without any deliberate evaluation. It is now believed that such processes may characterize many, perhaps most, judgments and decisions, whereas more deliberate, slow, reason-based processes are activated as needed, sometimes correcting or overriding the automatically produced responses. Although intuitive, automatic responses have been shown to influence both judgments and choices, deliberate evaluations of options and their attributes tend to play a greater role in choice. Indeed, viewing choice as driven by the balance of reasons for and against options has been shown to account for choice anomalies (e.g., the asymmetric dominance and compromise effects discussed earlier), which are more difficult to explain based on value maximization or based solely on the notion that decisions are made automatically, with little consideration of attributes or the relations among options.

Social and Cultural Aspects of Decision Making

In addition to considering the implications of task and stimuli characteristics for decision processes and outcomes, decision researchers have studied the role of social and cultural factors and individual differences in decision making. Some social aspects, such as conformity, have received relatively little emphasis, despite their clearly important role in decision making, in part because they appear straightforward and not surprising. However, researchers have examined, for example, the ability of social conditions, such as accountability and having to justify to others, to moderate and possibly diminish people’s susceptibility to various judgment and decision errors. By and large, similar to other types of incentives such as giving monetary compensation for good performance, research has shown that social incentives have limited beneficial impact on decision performance, though they could diminish some errors that are due to limited effort. There also has been a growing interest in the role of cross-cultural differences in decision performance. Initially, researchers focused on the differences between “individualistic” (e.g., people in the United States and Western Europe) and “collectivist” (e.g., Asian) societies, for example, showing that Chinese tend to be more susceptible than Westerners to the overconfidence bias. More recent research suggests that cross-cultural differences in judgment and decision making are less robust than previously thought and are sensitive to various situational factors.


Most behavioral decision researchers now reside in business schools rather than in psychology departments. This shift reflects, in part, the growing influence of decision research on applied fields, such as marketing, organizational behavior, and behavioral economics. For example, a great deal of behavioral decision research over the past 30 years or so has examined topics related to consumer decision making, bargaining, fairness, and behavioral game theory. Furthermore, there is a growing recognition in the economics field, which dominated early views of decision making, that violations of rationality are often systematic, predictable, and are not corrected by learning or market forces. Accordingly, the still evolving subfield of behavioral economics has increasingly incorporated descriptive aspects of decision making, derived from studies conducted by behavioral decision researchers, into
economic models, addressing issues such as choice, valuation of goods, and discrimination.

See also
Heuristic Processing; Loss Aversion; Mere Ownership Effect; Overconfidence

Further Readings

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