

How Humans Make Decisions

Decision-making is the ultimate objective in all engineering. Although the decisions may be masked by prescriptive codes, engineers continually make decisions about the suitability of candidate designs. Therefore, the development of tools to help the engineer make good decisions is a fundamental motivation behind this website. However, before looking at the decision principles that guide engineering decisions, it may be entertaining to have a glance at how humans make decisions in everyday life. These decisions are often subjective, based on personal preferences, and subjected to various forms of bias. Hence, it is stressed that the observation of how humans make decisions should not necessarily carry over to recommendations on what constitute a good decision. It is also emphasized that the decisions in question are those that are made under conditions of uncertainty. Deterministic decisions, such as answering the question “Would you like to receive ten dollars or twenty dollars, when there are no strings attached and nobody stands to lose?” are simple. You want twenty, because that maximizes your benefit. It is uncertainty about outcomes in light of vague personal preferences that makes human decision-making difficult. Examples range from what to eat and wear to which car and house to buy.

Documentation of the sometimes amazing and sometimes flawed decision-making by humans is found in many newspapers and books (Gladwell 2005; Kahneman 2011). It is also interesting that modern neuroscience is providing new insight into the complex processes that are behind even the simplest of human decisions.

References

Gladwell, M. (2005). *Blink: The Power of Thinking Without Thinking*. Little, Brown.

Kahneman, D. (2011). *Thinking, Fast and Slow*. Farrar, Straus and Giroux.