

Decision Making: What's the Process and How Can We Improve It?

by Winston Sieck - December 12, 2017

<https://www.globalcognition.org/decision-making/>

We tend to think of decision making as a skill that, once mastered, we can employ on command in a range of situations.

From the workplace, to personal interactions, the ability to make a sound decision can lead to better outcomes in nearly every sphere of life. But if you've ever wondered about what exactly is happening in the brain to inform our decision making process, you're not alone.

By studying how people make decisions, we [understand our own minds](#) a bit better. And that gives us a leg up on how to improve them.

At this point, there's a growing body of research that examines not just how we make our decisions, but also uncovers that there are two types of decision making processes that many of us are unaware that we possess.

In their paper, [Dual process theories of higher cognition: Advancing the debate](#), published in *Perspectives on Psychological Science*, Jonathan Evans and Keith Stanovich discuss the scientific literature surrounding the idea of dual processes in decision making and reasoning.

As Evans and Stanovich write, the idea that we have two primary modes of making decisions, "one fast and intuitive, the other slow and deliberative, is both ancient in origin and widespread in philosophical and psychological writing."

Considerable research has been devoted to understanding these processes since the 1970s and 1980s.

So, what are these two processes? And how do they work together to help us through challenging decisions?

Two kinds of decision making process

The two types of decision making processes are often called Type 1, which is more intuitive, and Type 2, which is analytical.

There are several differences between these two approaches to decision making. One of the key distinctions is that Type 1 processing tends to be much quicker. These are what we think of as "gut" decisions that we arrive at quickly, and usually with [some level of confidence](#). As Evans and Stanovich note, "when people are confident of an initial intuitive answer, they are less likely to spend time rethinking it or to change their answer after reflection."

On the other hand, Type 2 decision processing requires what cognitive researchers sometimes call “hypothetical thinking.” Instead of making an in-the-moment decision, this approach tends to be slower, and requires more thought about how the decision may impact events in the future. This brings elements of [critical thinking](#) in to support your decision making process.

In addition, since Type 1 decisions are made from a more grounded place of instinct, they tend to require less of our working memory. For example, if a parent sees their toddler in the street, they don't need to remember a complicated series of steps required to move the child out of harm's way.

They just run.

By contrast, when faced with an unusual, tricky decision at work that requires consideration of several conflicting viewpoints, your brain is tasked with holding much more information in your head at one time.

It can be easy to oversimplify the dual process concept and assume that Type 2 answers are generally better because they are, by definition, more carefully thought through. But Evans and Stanovich argue to the contrary, writing that:

"perhaps the most persistent fallacy in the perception of dual-process theories is the idea that Type 1 processes (intuitive, heuristic) are responsible for all bad thinking and that Type 2 processes (reflective, analytic) necessarily lead to correct responses."

In the example above, a parent's slow response to save their child from danger could have severe consequences. In some cases, those fast, gut level Type 1 decisions can help us stay safe.

But quick, instinctual decisions only get us so far. Both Type 1 and Type 2 processes usually come into play, even in rapid, life or death decision making.

We can explore this further, and get a little more concrete about decision processes, by considering a specific case of a dual-process model. One that was informed by cognitive field studies of expert decision makers.

Recognition-Primed Decision Making Process

Gary Klein and his colleagues at Klein Associates developed the “recognition-primed decision” model based on observations and interviews with firefighters, tank platoon commanders, and others who work in fast-paced, high-stakes jobs. Their studies are described in Klein's book, *Sources of Power: How People Make Decisions*.

The general idea is that experts make most of their decisions by matching them to their past experiences. If they are in a familiar situation, the decision is automatic. They recognize a situation as being like ones

they've encountered before, and an option comes to mind. In this sense, the decision feels "intuitive."

Yet, this doesn't necessarily mean the experts act without thinking. According to the model, they think about the plausible results of taking the action to determine whether the option is workable or not. And if it's not, they come up with an alternative. They rely on the principle of [satisficing](#) as described by Herbert Simon.

Also, sometimes the situation seems unusual or ambiguous. In these cases, the decision maker tries to figure out what's going on. Once they have some sense of clarity, say by coming up with a story that seems to fit the situation, they get back to the decision at hand.

Hence, the recognition-primed decision model includes both Type 1 and Type 2 processes. Still, in fast paced environments like those studied by cognitive field researchers, the decisionmaking process is sorted out quickly.

How to train and develop decision making skills

What are the implications of the dual process theory for developing decision making competence?

Thinkers in this area have tended to gravitate towards their preferred system, recommending that you concentrate your efforts there. Hence, you're told to use your gut feelings to make better decisions. Or, you're cautioned to adopt a rational choice process, so you can overcome your biases. My suggestion, instead, is that you actively seek to improve both your intuitive and analytical systems.

Improving System 1: Intuition

First, you can aim to enhance your intuition. You aim to improve that very fast assessment of situations and the initial options that spring to mind. Development of this kind tends to be fairly narrow, in the sense of focusing on decisions specific to your job. That is, you're looking at domain specific improvements.

Jenny Phillips, Gary Klein and Winston Sieck examined ways we can train our intuitive decision making skills in [their paper](#), "Expertise in judgment and decision making: The case for training intuitive decision skills," which appeared as a chapter in the *Blackwell Handbook of Judgment and Decision Making*.

In essence, their idea was to strengthen various kinds of knowledge you draw on to make decisions within the domain. For example, you need to build up a large set of cases involving critical decisions, so that you have patterns to match. Knowing what kinds of decisions you'll face is a solid first step. Also, you should study sets of cues that signify what's going on and what to do in that situation. And, you'll want to develop a deeper understand of how things work, or what causes what. This kind of knowledge is sometimes called a "mental model."

One way to build up your knowledge base is with on-the-job-training and coaching. At the most informal, you can carefully watch the seasoned, skilled performers at work. You can ask them tons of questions to get their stories and insights. These vicarious experiences become part of your knowledge base that drives your intuitions. Naturally, this relies on you to take ownership of your learning.

A leader, trainer, or other talent development professional can formalize this general approach by creating case studies and scenario-based training approaches. Material for these can be reaped from subject matter experts using knowledge elicitation methods, such as [cognitive task analysis](#).

By studying well-developed, canonical cases, you accumulate instances, notice patterns among them, and draw lessons learned. The scenario-based (or critical incident) instructional method is an incomplete version of a case study. Here, the learner practices assessing situations and making decisions, typically under time pressure. A coach or facilitator asks questions to get the learner to describe current and anticipate events, options they're considering and how they anticipate those playing out.

These last suggestions highlight a transition from Stage 1 to Stage 2 processes.

Improving System 2: Analysis

Facilitator questioning in scenario-based instruction goes beyond building the knowledge that underlies gut-level intuition. It's geared towards developing analytical reasoning capabilities, as reflected in System 2.

As I've described in a previous article on [critical thinking skills](#):

“Critical thinking is simply a deliberative thought process. During the process, you use a set of critical thinking skills to consider an issue. At conclusion, you make a judgment about what to believe, or a decision about what to do.”

A benefit to this approach is that it means building up skills that you can employ in other job contexts. These are [general skills that you can transfer more widely](#) across various areas of your life. For example, such critical thinking skills include taking into consideration multiple perspectives and examining the implications and consequences of a belief or action.

While we aren't always aware of which process we are undertaking when we make a decision, we can begin to tune into our own thinking. When making a decision, we can simply ask ourselves about the impact of our decision outside of the immediate moment. That bit of metacognition alone can shift your thinking from Type 1 intuitive into a more thoughtful, logical Type 2 response.

Frank Yates has described a comprehensive set of critical thinking questions for decision making, which he describes in detail in his article on the [Yates' 10 Cardinal Decision Issues](#). They are discussed more thoroughly in his book, *Decision Management: How to Assure Better Decisions in Your Company*.

Here's a brief list of the issues, though I recommend reading his article for more insight into each:

- **Need:** Do you really need to make a decision?
- **Mode:** Who will make the decision and how will they do it?
- **Investment:** What resources will be invested in the decision?

- **Options:** What are possible responses to a situation?
 - **Possibilities:** What things might happen as a result of taking a course of action?
-
- **Judgment:** How much weight should we give the distinctive possibilities?
 - **Value:** How much would stakeholders care about different outcomes?
 - **Tradeoffs:** How do we deal with the pros and cons of different options?
 - **Acceptability:** How do we get stakeholders on board with the decision?
 - **Implementation:** How do we make sure the chosen actions are carried out?

For complex, strategic decisions, you can work through the Yates' Cardinal Decision Issues to directly support your thinking through the decision process. For those rapid, critical decisions, the Issues can be incorporated into scenario-based training exercises. In this setting, they serve as a form of “pre-thinking” that strengthens your intuition, allowing you to “draw from the bank” in the critical moment of need.

As human beings, we're fortunate to use our complicated brains in a myriad of ways. When we understand how our brains work, we can gain clarity, improve our cognitive performance, and make better decisions every day.

Image Credit: [pixource](#)

References

- Evans, J. S. B., & Stanovich, K. E. (2013). Dual-process theories of higher cognition: Advancing the debate *Perspectives on psychological science*, 8 (3), 223-241 : [10.1177/1745691612460685](https://doi.org/10.1177/1745691612460685)
- Klein, Gary. (1998). *Sources of Power: How People Make Decisions*. MIT Press.
- Phillips, J. K., Klein, G., & Sieck, W. R. (2004). Expertise in judgment and decision making: A case for training intuitive decision skills. In D. J. Koehler & N. Harvey (Eds.), *Blackwell Handbook of Judgment and Decision Making*.
- Yates, J. F. (2003). *Decision management: How to assure better decisions in your company* (Vol. 29). John Wiley & Sons.

Retrieved: 02-11-2018
Updated: 02-09-2018
Published: 12-12-2017
globalcognition.org