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What psychology suggests about decision making

Dr David Lazenby | PortfolioConstruction Forum | 08 Feburary 2016

Research in psychology has revealed that our decisions are disrupted by an array of biases and irrationalities. We're overconfident. We seek out information that supports us and downplay information that doesn't. We get distracted by short-term emotions. When it comes to making choices, it seems, our brains are flawed instruments. Unfortunately, merely being aware of these shortcomings doesn't fix the problem; any more than knowing that we are nearsighted helps us to see. The real question is - How can we do better?

WHAT PSYCHOLOGY SUGGESTS ABOUT DECISION MAKING

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Recently, scientists have greatly advanced our understanding of how human decision making actually works. In addition to advances in technology - such as brain imaging, which enables us to see the brain at work as people make decisions - research abounds from fields like behavioral economics, behavioral finance, behavioral decision theory, neuroscience, cognitive psychology, and social psychology.

This research has revealed that the way people actually decide is very different from our common assumptions about how we decide. Some advice professionals say that, because people are largely goal-oriented and have very specific preferences, all we need to do is remove the barriers between needs, goals and what they want. But research on decision making shows that people often do not have well-formed objectives, and their preferences are actually quite malleable.

Decision outcomes are dependent upon the contexts within which people make decisions. Context includes factors like the complexity of a decision, how expert a decision-maker is, how many options there are, how the options compare or relate to one another, the ordering of options, the wording that expresses the options, and many others.

WHY DECISION ARCHITECTURE?

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work as Advice Scientists takes on a whole new dimension of business criticality. We become decision reassures.

In planning experience design, professionals are largely responsible for creating the context within which prospect or client decision making occurs. Thus, if a design itself significantly impacts decision outcomes and decision outcomes directly affect an organisation's bottom line, our work as Advice Scientists takes on a whole new dimension of business criticality. Designing an effective context for decision making requires that we understand how the process of decision making actually works and what affects it. Just as we take an educated approach to making delivery of our services friendlier, we need to take a well-informed approach to designing for decision making.

Decision architecture is the art and science of designing for prospecting, planning and selling good decision making outcomes by clients. Just as we have Information Architects who devise optimal data patterns for organisation of information, we need Decision Architects who know how to architect and design an experience for optimal decision making. This experience design should include the theory, methods and tools integration for optimal choice discovery, problem solving and decision making.

In financial planning, for example, often there is a mismatch between the type of problem (simple, complex, or chaotic), types of decisions (certain, at risk, uncertain), type of tools, type of calculations and outcomes to consider. This mismatch creates much of the constraints or bottlenecks in decision outcomes. The most important measure of outcome is whether the client is willing to implement the strategies and more forward. Are their decisions reassured?

Advisers often blame the client for “not buying in” or “trusting me enough” for the most common outcome/enemy of many advice processes - No Decision, No Change. However, my experience is that the choice and decision architecture is often misunderstood and maldesigned. For example, if financial planning was a game, so to speak, it is currently a poorly designed game. This is just one illustration of design methods and tools putting the cart before the horse.

Figure 1: Design methods and tools putting the cart before the horse

Complexity (# of Variables)	Time Frame	Types of Decisions	Outcome	Type of Calculation	Types of Tools	Tool Purpose	Planning Process
Low (One)	**Short Term** Today / Near Future	Under Certainty	Positive	Present Value	Straight Line (Deterministic)	Prove	Goal-Based
Moderate (Few)	**Mid-Term** Intermediate Future (1-10 Years)	At Risk	Probable	Probabilities	Monte Carlo (Range of Outcome) Calculators	Predict	
High (Many)	**Long Term** Distant Future (10+ Years)	Under Certainty	Possible	Future Value	Scenario Planning (Evaluating Tradeoffs) Calculators	Prepare	Game-Based

TWO METHODS OF MENTAL PROCESSING

> Decision architecture is the art and science of designing planning experiences for good decision making by firms, advisors and clients.

Decision making is a complex process. How humans process information drives their decision making. People process information primarily through two mental modes, or channels, that operate in parallel. The first mode of information processing occurs primarily on the subconscious level; the second, at the conscious level. Daniel Gardner, in his book The Science of Fear, refers to these two modes as Gut and Head, respectively.

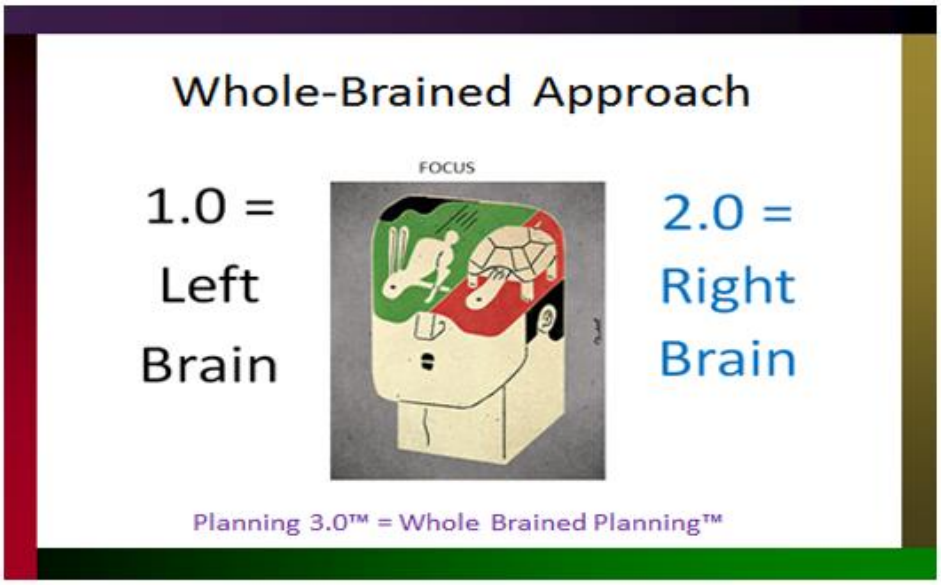
Gut processing is sophisticated, intuitive, and quick. Head processing, on the other hand, is analytical, slow, and rational. Each mode of mental processing has strengths and weaknesses, and each plays a distinct role in decision making. Gut makes decisions quickly. But Head can monitor Gut's decisions and overrule them when necessary. According to Gardner, "Gut decides, Head reviews: This process is how most of our thoughts and decisions are made." Essentially, we are of two minds, each of which works semi-independently of the other.

There are two aspects of Gut processing that primarily impact decision making:

- emotion and affect – a feeling that something is good or bad
- reliance on mental shortcuts

Research consistently confirms the important role emotion plays in decision making. Researchers have done many studies with people who have incurred damage to the parts of the brain that process emotion. These studies show that decision making is impossible without the influence of emotion. Emotions are often the way in which the subconscious mind communicates with the conscious mind. However, if we are dealing with complexity and decisions that are about constraints/tradeoffs we must take a "whole brained" approach to creating a learning environment supporting exploration and guided discovery.

Figure 2: A whole-brained approach to decision making



Source: David Lazenby

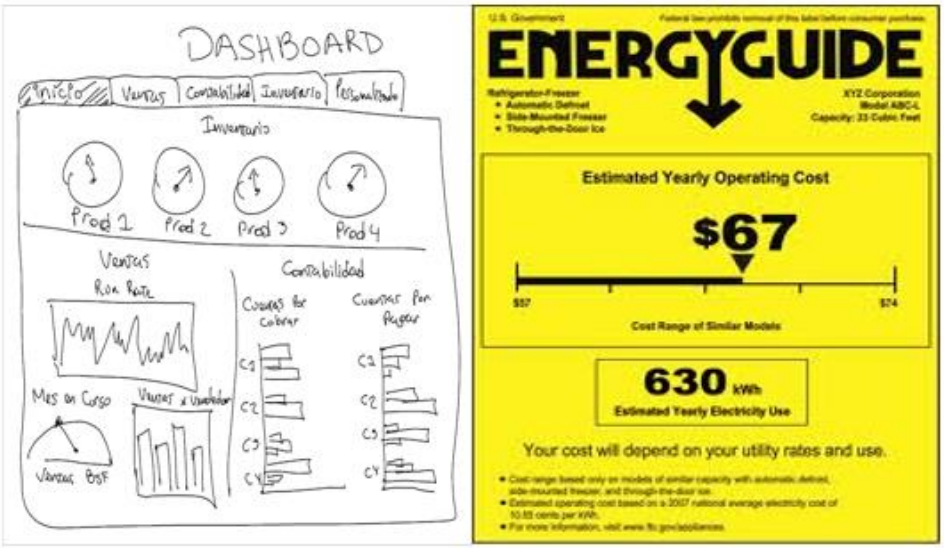
As we go through life, our subconscious brain encodes our experiences in images, metaphors, and narratives and attaches emotions to them – thereby, associating meaning with them as well. We essentially are storytelling machines that continually simulate and rehearse outcomes. Each element represents an object or experience in a person's mind that is essentially tagged with an emotion. Each time we make a new decision, we subconsciously compare the available options to the objects or experiences we've previously encountered in life, along with the emotions that we've attached to them.

The more mature person has more tagging or experiences they bring to the table. The less experienced requires more guided support to uncover the tags. This suggests a more "show me" approach for younger clients versus "clarify for me" model for older clients.

When making a decision, these emotions give meaning to the various options under consideration and play the critical role of tipping the scale favorably toward one option or another. Our ability to rely on the good or bad feelings we have about something empowers efficiency in decision making that negates any need for us to identify and analyse every single available option.

Choice Framing adds to supporting boundaries for understanding new context or information. This can be in the form of transitional objects (shared space - like drawing on napkin, or energy star description for labeling of appliances [where does this appliance rank in energy consumptions given my options] or playing a multiplayer game on large screen like GuitarHero). This framing can also be designed with mental models for structural "rules of thumb" around feedback with guidelines.

Figure 3: Choice framing



Source: David Lazenby

Mental shortcuts are another important aspect of Gut-level processing. They are exactly what you'd think - a means of managing the complexity of the world through the use of certain rules that generally allow us to come up with reliable snap judgments. One example of a mental shortcut is the availability rule. Gut assumes things that come easily to mind are most common in our everyday world. For instance, when researchers ask what most people in the US die from, many people cite whatever cause of death they've heard people talking about most often in the news and media, because this is what springs most readily to mind.

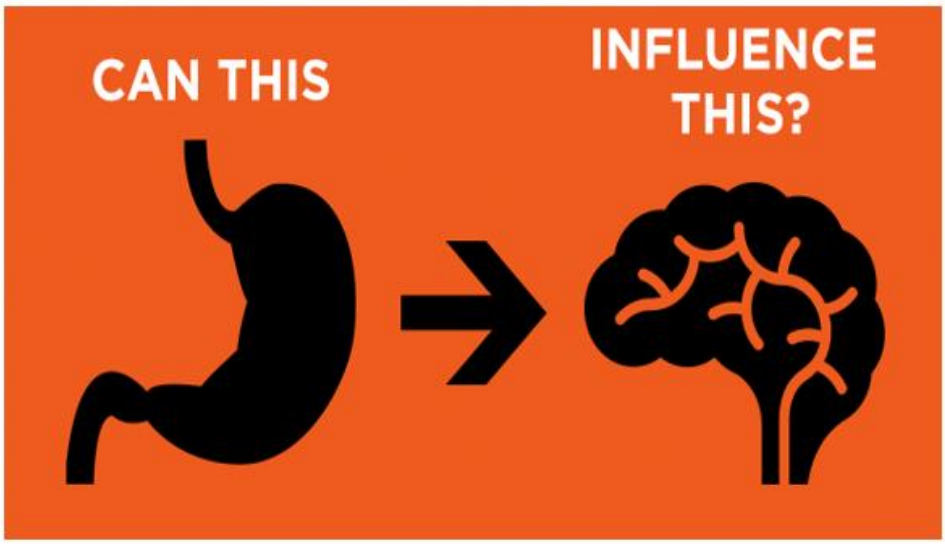
THE COLLABORATION OF HEAD AND GUT

> Gut processing always precedes Head processing. … It is our initial impressions, our initial reactions to things, that shape and color the thoughts and judgments that follow.

Gut always beats Head to the punch. And even if Head steps in and overrules Gut, this does not negate the impact of Gut on a decision. It is our initial impressions, our initial reactions to things, that shape and color the thoughts and judgments that follow.

What makes the interaction between Gut and Head so interesting is that, sometimes, Head doesn't bother to monitor Gut. Sometimes, Head doesn't step in at all. When this happens, decision making occurs automatically, under the radar of our conscious attention.

Figure 4: The collaboration of head and gut



Source: David Lazenby

So, although Gut enables an efficient way of navigating a complex world, it can also lead us astray. Gut can sometimes apply mental shortcuts that really aren't appropriate to the situation at hand or are simply incorrect. Here's an example of a misleading mental shortcut: People often make snap judgments about other people based on their physical appearance. Perhaps they might think attractive people are smarter or tall men make better leaders.

The challenge is that Head can't look inside Gut to figure out how or why Gut operates the way it does. Our subconscious is much like a black box with no access doors. It's strictly off limits to the conscious mind. All Head can do is monitor and override Gut; it can't change or negate the influence of Gut.

THE WORK OF DECISION MAKING

> One reason Head may fail to actively take part in the process of decision making is because conscious thought takes effort.

While Gut processing is fast and effortless, Head processing is slow and effortful. One reason Head may fail to actively take part in the process of decision making is because conscious thought takes effort. People are remarkably sensitive to the effort of conscious decision making – the mental processing that occurs primarily within the prefrontal cortex.

In a 1999 experiment, Shiv and Fedorikhin tested the effect of cognitive load on decision making by asking participants to remember either a 2-digit or a 7-digit number – that is, a low cognitive load versus a high cognitive load, respectively. They then asked participants to walk to another room and report the number to a different researcher. However, on the way to the other room, they offered the participants refreshments, giving them a choice between chocolate cake or fruit salad. It turned out that participants selected cake 63% of the time when the cognitive, or memory, load was high and only 41% of the time when the cognitive load was low.

The purpose of this experiment was to test the effect of cognitive load on Head's ability to override Gut – specifically, to test people's ability to resist temptation when their brains were operating under various levels of cognitive loading. Distracting Head with a memory task made people more susceptible to temptation. The effort to remember the number drew cognitive resources away from the prefrontal cortex, which also controls emotional impulses, or Gut. This experiment, among many others, has demonstrated that it doesn't take much to exceed the capacity of the prefrontal cortex.

THE GOAL OF DECISION MAKING

> A person's objective in decision making is to arrive at the best possible decision outcome with the least possible effort. These two variables – effort versus optimal outcome – are usually at odds with one another. Better decision outcomes typically require more effort.

In addition to being sensitive to the work of decision making because of the limitations of the prefrontal cortex, people are also sensitive to the work of decision making because... well, just because it's work. In general, people tend to be rather lazy when it comes to expending effort to make decisions. Unless people have a particular incentive or a compelling reason for expending effort on a decision, they are just as likely not to decide.

For the most part, a person's objective in decision making is to arrive at the best possible decision outcome with the least possible effort. Of course, these two variables – effort versus optimal outcome – are usually at odds with one another. Better decision outcomes

typically require more effort. So, decision makers must make tradeoffs between the two, adjusting their strategy according to the importance and type of the decision they're making.

IMPLICATIONS FOR ADVICE DESIGN

Human problem solving and decision making is a sophisticated duet between Head and Gut. What makes this seeming soft stuff so tricky?

- Head and Gut operate in very different ways.
- Head is sometimes an active participant; sometimes not.
- Decision outcomes depend substantially on the contexts in which people make decisions.
- The Design tools and methods must match with the types of problems, decisions, outcomes.
- Carving out time in the beginning to create mental models of buying process.
- It's not simple stupid! Sometimes it is the opposite of normal KISS principle
- Consider good science as starting point for important experience design

Dr David Lazenby is a US-based licensed psychologist with a PhD in counselling and performance psychology. He is a leading expert in financial planning experience design, taking psychology from academic theory to the real world to help wealth professionals develop their "bedside manner" and develop their human relations skills, systems thinking and scenario planning techniques and tools. For over 30 years, he has guided Fortune 100 executives, global financial services firms, financial planning startups, professional athletes and US Navy SEALs and pilots. He has consulted to the US Federal Reserve and sits on three family firms' investment committees that oversee US$8bn in investments. He is the co-author of Scenario Selling: Technology and the Future of Professional Selling.

In 2015, Dr David Lazenby joined PortfolioConstruction Forum as Chief Finology Officer, with the brief of overseeing PortfolioConstruction Forum's finology curriculum.