System1

Unlocking Profitable Growth

Chapter One

Decision-Making

System1

Unlocking Profitable Growth

A thoroughly enjoyable read. A fantastic explanation of decision-making – engaging and thought-provoking. Both tickles your System 1 and satisfies your System 2.

Dr Alain Samson
Founder of behavioraleconomics.com

If you don't understand the mechanics of the thing you're trying to change, how can you hope to achieve the change you want? Read this excellent synthesis of what contemporary behavioural science tells us and you'll give yourself a whole better chance. Great stuff!

Mark Earls
Author of 'Copy, Copy, Copy', 'Herd', 'I'll Have What She's Having', Fellow of the Marketing Society & the RSA, Honorary Fellow of the IPA and Ambassador of The School of Life.

Chapter One

Decision-Making

In Chapter One, we explore the brain's two decision-making systems. System 1 makes fast judgments using experience, emotion and pattern recognition. System 2 is the slow and lazy policeman – good for calculation, but mostly a rubber stamp for System 1.

We think much less than we think we think.

From the Ice Age to the iPhone

Our story starts 20,000 years ago, at the iciest point of the Ice Age.

Human beings have it tough. Plagued by parasites, harassed by predators, constantly foraging for food, with nothing to help them beyond basic tools and clothing. Life expectancy is low, disease is rife, and as for the weather? Let's just say they're crying out for some global warming.

However, they have one seriously big thing going for them. Ice Age humans have a brain that's *tripled* in size over the previous hundred thousand years – an evolutionary spurt that's left them with a fantastic advantage. As well as the standard "lizard brain" which governs primal drives and involuntary physical reactions they have a mechanism for making judgements and choices. In short, they can think.

This book – and everything we do at System1 – is about how people think.

Our typical Ice Age human has to survive in a brutal environment, making life or death decisions every day. Most of these decisions are taken very quickly. Some are habitual – securing the skins over a shelter against the winds. Some are learned – recognising

instantly whether tracks in the snow are from a deer or a wolf. Some are governed by emotional response – judging whether a stranger with furs to trade is trustworthy. All these decisions involve complex choices that have been simplified into quick judgments that feel right.

Sometimes our Ice Age inhabitant faces judgments that can't be resolved so quickly. For example, they find tracks in the snow which have partly thawed. Their pattern recognition skills can't immediately decipher if the tracks belong to prey or predator. Or a hunting party has got lost, and needs to calculate the way back to the tribe by complex observations of the stars and moon. These aren't snap decisions – they're more difficult and require a more considered kind of thinking. But this kind of decision is also quite rare.

So why start a book about 21st century marketing by harking back to the Ice Age? Because as far as brains go, that was as good as it got. Our brains have actually *shrunk* over the last 20,000 years – Ice Age humanity's brain capacity was around 10% greater than ours.

We're not becoming less intelligent – there's no definite correlation between brain capacity and intelligence. But we're not getting any cleverer either. Despite all our gadgets and devices, we're inherently no smarter than Ice Age humans.

But we still have the same crucial ability to think. And we still think in the same way – the vast majority of our decisions are quick and instinctive, and driven by emotion and experience. And a few are more difficult and considered, usually when we have to process complex or ambiguous information.

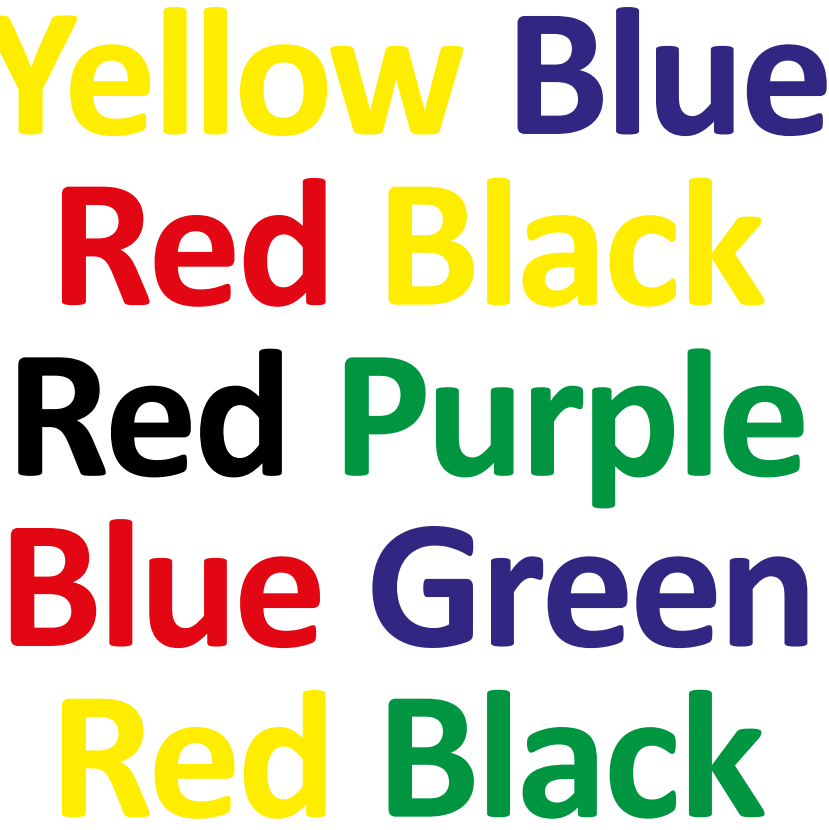
Nowadays we have names for the two ways human beings make decisions. The quick, instinctive way is called *System 1* and the difficult, considered way *System 2*.

This book is about how marketing looks when we realise that practically all human choices are made through System 1. They are, as psychologist Gerd Gigerenzer puts it, *fast and frugal*.

In this book we explore how a lot of the conventional wisdom about consumers rests on a false premise – it assumes people use System 2 to deliberate over the choices they make. In most cases, they don't. It's a System 1 world. And that changes everything.

First, we'll explain how and why System 1 works so well. Then we'll look at four aspects of marketing from a System 1 perspective: *innovation, communication, brand building and shopper marketing*. For each, we'll focus on one principle that will help your business unlock its potential for profitable growth.

So get ready to explore the reality of human decision-making. Get ready for System 1.



Fight your System 1 brain

Quickly say the colour the word is written in, as you read each word.

The Power of System 1

Say out loud the numbers that make up your birthdate.

Now, say them backwards.

The first task employed System 1. You've used that sequence of numbers so many times – you can rattle it off without thinking.

But for the second task, you needed to pause, think, and engage your System 2 brain to reverse that familiar sequence. It wasn't so easy. In fact, we'd bet that most of you won't even have done it. You probably got one or two numbers in and stopped. You need to go back and do it properly to get the full System 2 effect.

If you did stop, no need to feel bad – skipping a difficult task is exactly how our minds are meant to work. Using System 2 isn't just more difficult, it's more annoying. If we can avoid it, we usually do. To paraphrase Daniel Kahneman, the psychologist who popularised the System 1 and System 2 model, *Thinking is to humans as swimming is to cats. They can do it if they have to, but only in dire emergencies.*

Kahneman is one of our most important modern thinkers, the only psychologist to have been awarded the Nobel Prize for Economics. He got it for his work with Amos Tversky on Prospect Theory,

Science is not only a disciple of reason but, also, one of romance and passion.

Stephen Hawking

the branch of economics which explores understanding of risk. Kahneman and Tversky's great insight was that faced with risks – when buying insurance, for instance – people don't make decisions based on precise probabilities, even when they know them. Instead they use a heuristic – a mental shortcut – which over-estimates the chance of unlikely but major losses, and use that as the basis for their choices.

This helps explain why so many more people are scared of getting into planes than getting into taxis, even though air travel is statistically far safer than road travel. The unlikely but catastrophic event looms more heavily in their mind, outweighing a more rational calculation of risk.

With their Nobel-winning work, Kahneman and Tversky uncovered two different ways of thinking. One was calculating, considered, and weighed up outcomes based on evidence. The other was fast, intuitive and based on simple heuristics to make decisions more quickly.

Over the next thirty years, Kahneman studied these two modes of thought. His life's work is summarised in his best-selling book, *Thinking, Fast And Slow*, in which he sets out his discoveries about how the two systems work.

It's a very dense book but one that should be on every decision-maker's shelf. And there are three principal conclusions to be drawn from it.

The first is how System 1 and System 2 work together. System 1 simplifies decisions and allows judgements to be made more

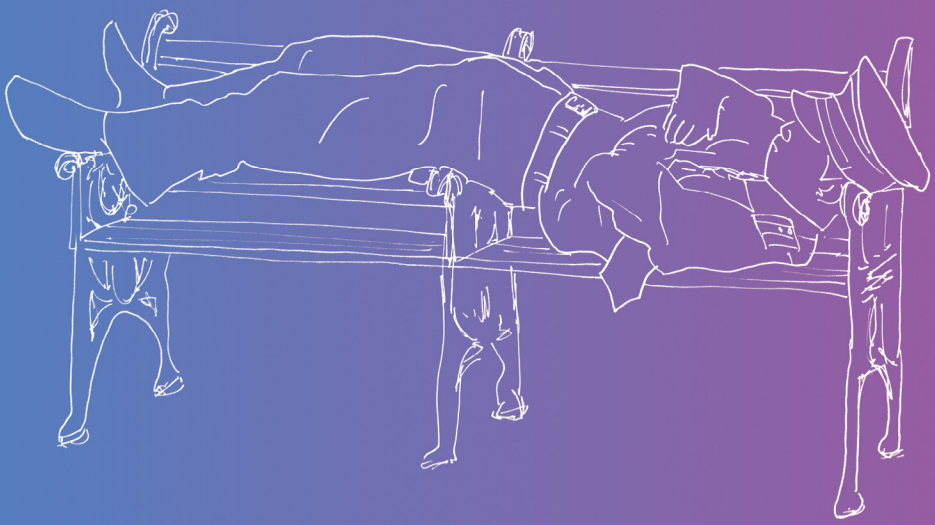
quickly and easily. System 2 evaluates options more deliberately. But in most cases, this evaluation is little more than a rubber stamp: System 1 is so effective in simplifying decisions that no great consideration is needed. Kahneman calls System 2 the "lazy policeman" – it monitors System 1 decisions and has the authority to intervene, but seldom does because it is effortful to do so.

The second conclusion is that System 1 underpins every decision we ever make. All choices involve System 1 simplifying decisions, before the "lazy policeman" either waves them through or stops them and examines them more carefully.

Which leads to the third and most significant conclusion. In our everyday lives, System 1 is far more influential and powerful. It governs the majority of our decisions. System 2 is only there for the rare occasions when System 1 cannot make a quick decision.

So how did humans come to have this dual-system brain in the first place?

The Lazy Policeman



The Roots of System 1

If human beings have a fast, instinctive mode of decision-making and a more cautious, calculated mode, isn't the more cautious one more useful? In a word, no.

If you've come across System 1 and System 2 before, you've probably seen the System 1 choices described as "irrational". Behavioural science books like Dan Ariely's excellent *Predictably Irrational* stress how real human behaviour seldom follows the rational path that economists assumed underpinned our decisions.

So it's been too easy to say that instinctive decisions are 'wrong' and considered choices are 'right'. As Gerd Gigerenzer points out in *Gut Feelings*, the idea that intuition is inferior to logical reasoning has been part of our culture from Aristotle onwards. Ironically, the sense that gut instincts must be wrong is, in itself, a gut instinct.

If quick, instinctive decisions really are inferior, why do we rely primarily on them? Why relegate our considered reasoning to the "lazy policeman" role? Simply because, in most situations, System 1 works extremely well. Humans use it for very sound reasons: it helps us conserve energy and react to situations quickly and efficiently. As Gigerenzer puts it, System 1 makes decisions "fast and frugal".

Let's think about "frugal", though in this context "efficient" might be a better word. Remember the date-of-birth task earlier this chapter? Saying the date backwards – the one requiring System 2 thought – required far more effort. System 2 decisions can be draining, so we depend on System 1 whenever possible. The more difficult the choice, the more energy we need to expend, and the more we can suffer from what's known as cognitive depletion, where we revert even more readily to System 1.

The psychologist Sendhil Mullainathan studied decision-making among those in poverty. He found that a shortage of money leads to a state of constant cognitive depletion. Every day, you have to work out how much you have, what you can afford, how to allocate resources within your family, and so on. Because your System 2 is under such pressure, you rely on System 1 even more. Trouble is, this can make you more susceptible to impulsive decision-making, and tempted by products, packaging and offers that provide instant gratification. But System 1 is vital because it saves time and energy, two things that poverty can seriously reduce.

If we go back to Ice Age humans, they often had to make life-or-death decisions very quickly. The ability to do this by instinctively processing past experience was vital. If they relied on the slow, considered, System 2 in every situation, they would not have survived. So fast and frugal decision-making isn't a mere substitute for 'real' thinking. It is the real thinking – an evolutionary marvel that's kept our species alive.

Gigerenzer explains how our instinctive reasoning employs a collection of mental shortcuts to make our judgements faster, easier and better. So what are these vital components of System 1?

Experience

One of the writers of this book once took a sailing trip with a round-the-world yachtsman. Being on the open sea in a small boat can be quite nerve-racking: every noise and creak of the boat sounded very ominous to a novice. But the experienced yachtsman barely noticed them. Until suddenly he heard something not quite right – a sound that may gone unnoticed by anyone else – which made him act quickly and decisively to steady the ship.

System 1 learns from experience. The experience that lets the yachtsman tune out unimportant sounds but tune into the important ones is the same sort of experience that means firefighters 'know' when a building might collapse, or chess masters recognise the weakness of a position immediately. They've been in similar situations often enough to be instinctively familiar with signs that people without their expertise wouldn't even notice.

This kind of instinctive application of learning has been extensively studied – in *Outliers*, Malcolm Gladwell helped popularise the notion that 10,000 hours of practice is what separates the amateur from the master in any given activity. Expert chess players get that way not just through natural talent, but through having played so often that they can make decisions about positions instinctively, using System 1. As the old saying goes, “practice makes perfect”.

It isn’t just chess grandmasters that train their System 1 like this. Everyone has a set of instinctive responses honed through experience of everyday life.

10,000 Hours.

8 hours a day,
5 days a week,
52 weeks a year.
For 4 years and 9 months.

Better get started...

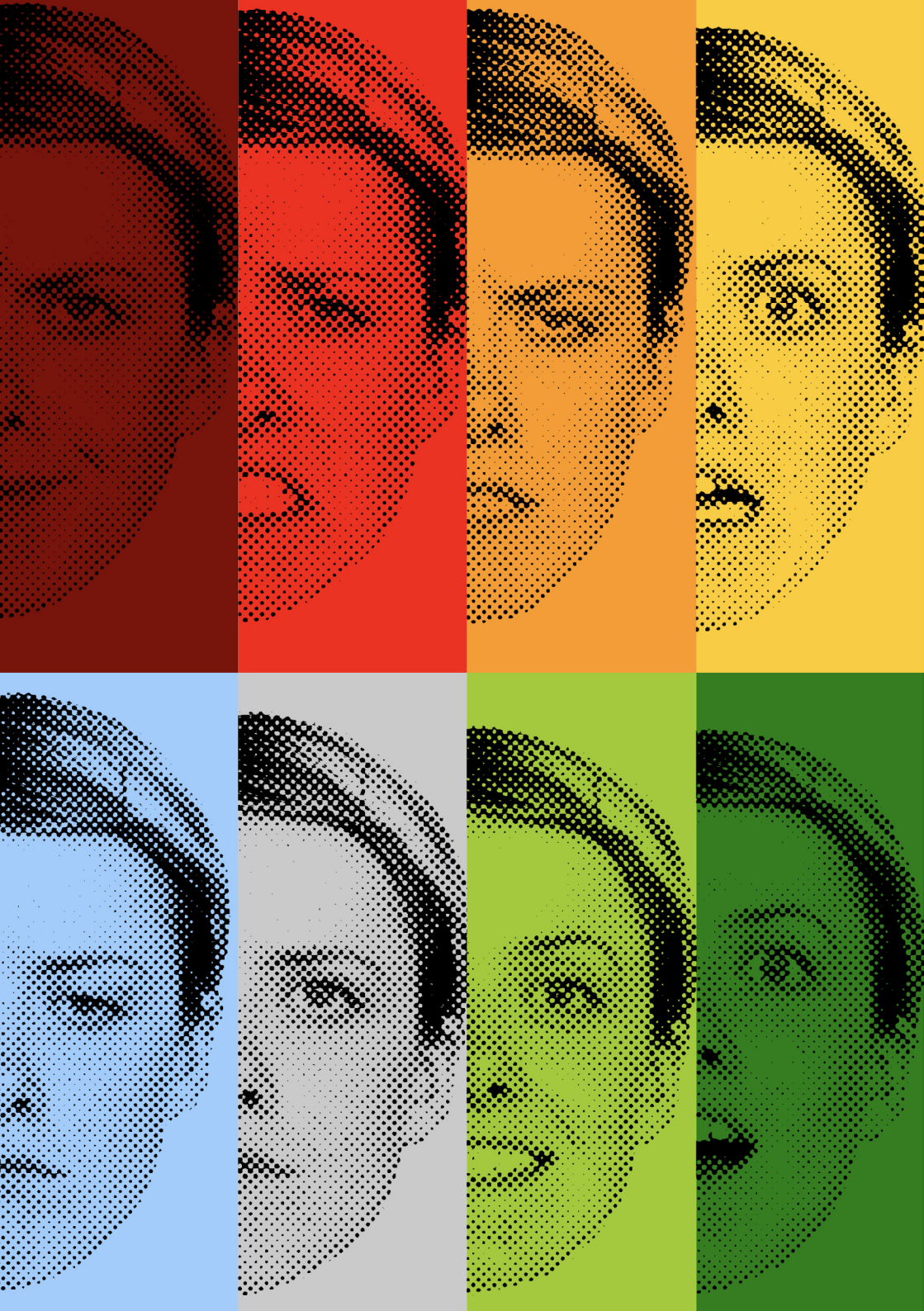
Imagine you had to move at short notice to a foreign country. You have money and a place to stay, but no local knowledge. Initially, settling in would be difficult. When exploring, you might find a good place to shop or eat and stick with it until you found more. Or you might look for familiar global brands before trying the local ones. You might consult guidebooks or maybe talk to colleagues or neighbours who know the place better. They didn't acquire their expertise by methodical research but simply by living there.

After a year, a friend visits. Now you're the expert, and your friend is impressed by how confidently you operate in this new environment. When they mention that, you're slightly surprised. The things they find strange are now second nature to you.

10,000 hours feels like a long time. And if you're practising chess, or learning to sail, it really is. But in terms of days, it's only just over a year. If you've grown up in a culture, you've had decades to become familiar with practically everything about it. All that information – far more than 10,000 hours of practice – is fully absorbed into your System 1, so you call upon it in an instant.

The ability to do this is the key component of System 1 decision-making. It's not just a matter of memory, but also selection – System 1 uses past experience to select a good option quickly. This is known as the *Availability Heuristic*, and is vital for our ability to make choices rapidly instead of getting bogged down in marginally different options.

Of course, everyone's different. We may all use the same methods – the Availability Heuristic being one of them – but *how* we use them can vary greatly. This is particularly true when we're sorting good experiences from bad, which brings us to...



Emotion

The neuroscientist Antonio Damasio tells a story about a man who suffered brain damage that left him unable to feel emotion. This was tragic on many levels, though one aspect of it was quite surprising. He became far slower at making decisions – often finding himself unable to choose between two equally good options, such as which day of the week to come back to hospital for his next appointment. Without the ability to associate choice with emotion, the man found it practically impossible to make a decision.

Emotion is essential to making judgements. Being able to call something readily to mind is fine, but if you can't summon up a feeling about it, you're unlikely to be able to make a decision in favour of it.

Emotion is inseparable from decision-making, but not all emotional response is equal. Not only do human beings have a range of emotions, but the breadth of language used to describe emotion across different cultures is huge. The problem with using emotion in marketing isn't recognising that emotion matters, it's working out which emotional responses are most important in decision-making.

The psychologist Paul Ekman has made it his life's work to study how emotion works across cultures, and ascertaining which responses all

humans have in common. He identified seven core emotions – happiness, surprise, sadness, anger, fear, disgust and contempt – which are universal, recognised and expressed in the same way on the face in every human society. Imagine how difficult our daily lives would be if we didn't have this universal framework for interpreting feelings in others' faces!

And what's the first thing you notice? Only one of those emotions – happiness – is truly positive. "Surprise" could be negative or positive, but the other five emotions are negative.

From an evolutionary perspective this makes a lot of sense. Emotions don't just help us make decisions, they're also a means of communicating through our facial expressions. Early humans had to deal with a many different threats, and deal with them in very different ways. The fear response – run and hide – shows on the face in a very different way from the anger response – approach and attack. A spectrum of negative emotions is vital. In contrast, you only really need one positive emotion to signal "this is good". Ekman identified many different types of happiness, but they all fall under the same emotional umbrella.

This is crucial for understanding how emotion simplifies decision-making. If something makes us feel happy, our System 1 decides it's probably a good option. It's why happiness – the one positive emotion – is also the most important one. It's what psychologists call the *Affect Heuristic* – positive emotional response leading to a positive evaluation of a choice.

Fight

or

Flight

The answer to a simple question – how do I feel about it? – is an excellent proxy for the answer to a far more complex question **– what do I think about it?**

Daniel Kahneman

This positive response doesn't always have to be strong, nor consciously linked to a specific reason. As Damasio describes it, experiences are "imprinted on the flesh": laid down by emotion in memory as good or bad and encoded in the brain ready to be recalled when relevant. When you're faced with a choice, System 1 retrieves these positive mental associations even if you can't recall the specific circumstances that created them. The lift that comes with emotion helps us to decide one way or the other.

As Daniel Kahneman puts it, "The answer to a simple question – how do I feel about it? – is an excellent proxy for the answer to a far more complex question – what do I think about it?" Emotion guides and simplifies our decisions.

But in order to access any positive mental associations about a decision, we need to be able to recognise quickly what we're choosing. This is where the third component of System 1 comes into play.

Binoculars

Pattern Recognition

Experience helps us make decisions quickly and instinctively. Emotion guides and simplifies them. But how can experience and emotion guide us in new situations? The answer is pattern recognition. Imagine you're a football fan, settling down to watch the World Cup final. You definitely like one team more than the other, and are rooting for them to win. Now imagine that they're playing in identical strips. Without the instant visual cue of different coloured kits to tell you who's on which side, understanding the game and knowing when to cheer requires far more concentration.

This is the third key component of System 1 – recognising and processing information instinctively. We are pattern recognition machines and System 1 is constantly scanning the environment for regularities. The more quickly and easily you can do this, the better: in a choice of two options, the one that is quicker to process has a definite advantage. The ability to process information quickly is known as fluency, and psychologists call this mental shortcut the *Processing Fluency Heuristic*.

It's important to understand what we mean by information here. We're not just talking about written or verbal material. A colour is information – as in a football jersey. So is a logo, or a snippet of music or a particular smell. The more fluently we process this

information, the faster we can bring in the relevant emotion and experience to make a decision. One example of fluent processing is shared cultural cues. For instance, the opening notes of the Wedding March are all that's needed to make most people think "weddings" – though who knows whether their emotional response will be good or bad?

The Processing Fluency Heuristic works even when there's nothing really to process. When we see faces in everyday objects, for instance, or shapes in clouds, we are instinctively processing information that isn't actually there. And as well as being able to make instinctive associations between images, sounds, colours and our own experiences, the human mind is also hardwired to spot patterns and link different pieces of information together.

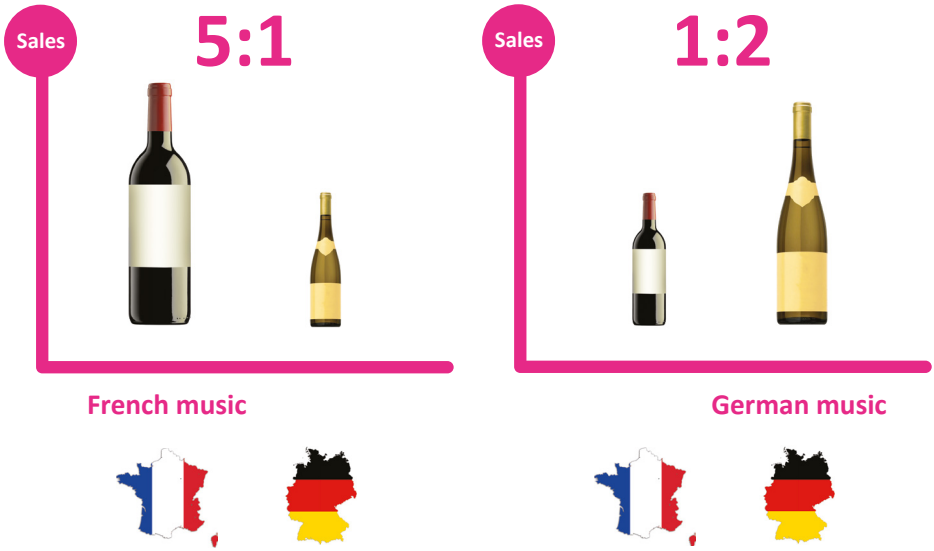
When several pieces of information point in the same direction, our System 1 minds expect new information to fit into that pattern too. If you invite someone out for a romantic dinner, for instance, they'll take in the soft lighting, the candles on the table, and perhaps your lovely new outfit. All these are easy to process as cues and reinforce each other. At this point, if you put on a thrash metal CD by Slayer, your date will most likely be somewhat taken aback. Incongruence – information that fails to fit the expected pattern – is the enemy of fluency. It makes situations harder to process and forces people to use System 2.

We see incongruence in action in political discourse, when partisans of one side or other simply reject information which doesn't instinctively fit their existing position. But plenty of studies show that a lack of congruence can have significant effects on more everyday decisions. In one study, psychologists altered the music

playing in a shop that sold drinks. When the shop played German music, sales of German wine outstripped French wine. When it played French music, sales of French wine outstripped German wine. Each country's music increased processing fluency for the wine of that country, making the decision to purchase it easier.

Experience, emotion and pattern recognition are the three most important ways our System 1 minds help us navigate and interpret the world around us. And they're levers that marketers can easily move. Building familiarity, creating positive emotion and making things easy to process are achievable and measurable marketing goals and the rest of this book will explore how to do that. But before we do, it's worth standing back and looking at how System 1 controls our everyday lives.

Priming: The effect on French and German wine sales when music associated with each country was played in the store



A. North, D. Hargreaves and J. McKendrick (1997)

Which jam display sold 10 times more than the other?

Clue: We may like the idea of choice, but making things easier actually makes action more likely.

Small Decisions, Big Decisions

We've focused on three ways that System 1 affects decision making. It uses the *Availability Heuristic* to trust options that come quickly to mind. It uses the *Affect Heuristic* to draw on positive associations and guide decisions. And it uses the *Processing Fluency Heuristic* to interpret a situation quickly and recognise good choices.

What all these things have in common is ease. They make complex choices simpler by eliminating unknown or undesirable options and recognising familiar ones. This is why using System 1 feels good. It makes decisions so much easier.

As Gigerenzer stresses, the decisions we make using System 1 are generally "good enough". To borrow terms from economics, humans are "satisficers" not "maximisers" – we look for a satisfactory option because we cannot always seek or know the best possible choice. This is only "irrational" in strictly pedantic terms. The number of decisions we make every day, and the need for them to be fast and frugal, means that System 1 is the sound and sensible method for decision-making.

But what about the really big decisions? Buying a house, for instance: is System 1 still the way people do it? Yes, absolutely. The process of buying a house or something similarly expensive

and significant is a long and complex one, offering plenty of opportunities to weigh up or reverse a decision. However the core question is much simpler: “I want a new house. Do I like this one enough to attempt to buy it?” That question will almost always be answered by System 1.

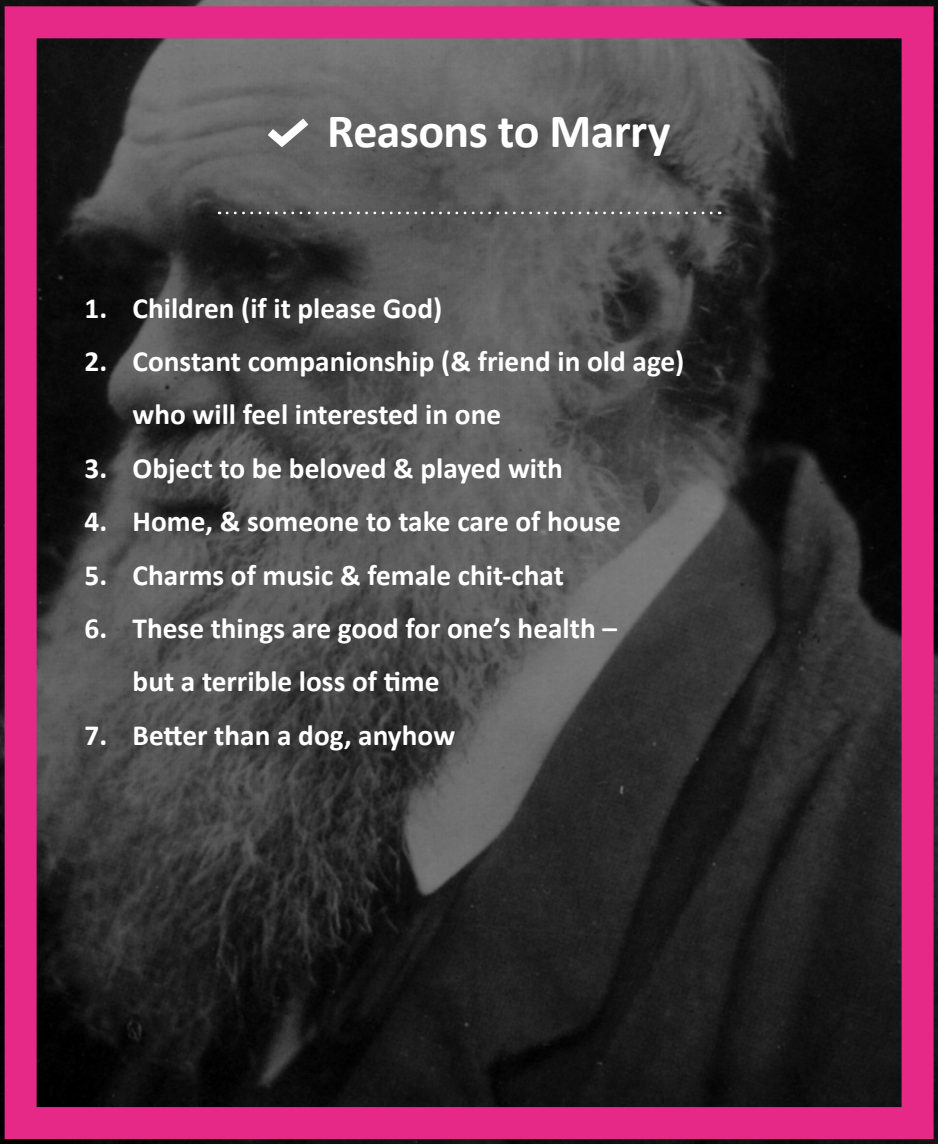
If you ask people about why they decided to move to their current home, their explanation will probably include some mention of how they immediately liked a particular feature, how the place “felt right” or that they “just knew”. The Affect Heuristic plays a huge role in these big decisions. Given a broad range of options, we rely on emotion to guide and simplify our choice.

But what about all the complex trade-offs involved in choosing between houses? This is a decision that offers more chances to wake the “lazy policeman” of System 2 than buying a bar of chocolate does. And in many countries these chances are legally part of the process. You can’t just buy a house on a whim; you need to get independent opinions from insurers and surveyors. But the initial impulse is still led by System 1 – and if you need more convincing, just look at the people who make their money selling houses.

Estate agents know perfectly well that System 1 guides and simplifies their customers’ decisions. It’s why they use euphemistic language like “bijou” when they mean “small”. It’s why they’re clever with camera angles to make a bedsit look like a mansion. And it’s why, when they drive you to the house so you can see it for yourself, they make sure you see the nicest room first. If System 1 wasn’t in charge, agents would use different tactics, like a logical list of reasons and benefits. But they know that getting that initial positive emotional impression is the key to making a sale.

Of course, we all know about these tricks. One survey of UK consumers revealed that only 22% trust estate agents. Yet the tricks continue to work.

Our System 1 mode of thinking doesn't switch off just because we have an important decision to make. It keeps working to guide and simplify the big choices as well as the small ones. But if System 2 doesn't control the big decisions, what exactly does it do?



✔ Reasons to Marry

1. **Children (if it please God)**
2. **Constant companionship (& friend in old age) who will feel interested in one**
3. **Object to be beloved & played with**
4. **Home, & someone to take care of house**
5. **Charms of music & female chit-chat**
6. **These things are good for one's health – but a terrible loss of time**
7. **Better than a dog, anyhow**

✕ Reasons NOT to Marry

1. Freedom to go where one liked
2. Choice of society, & little of it
3. Conversation with clever men at clubs
4. Not forced to visit relatives & bend to every trifle
5. To have the expense & anxiety of children
6. Perhaps quarreling
7. Loss of time
8. Cannot read in the evenings
9. Fatness & idleness
10. Anxiety & responsibility
11. Less money for books etc
12. If many children forced to gain one's bread (but then it is very bad to one's health to work too much)
13. Perhaps my wife won't like London; then the sentence is banishment & degradation into indolent, idle fool

Even great minds succumb to System 1 - Charles Darwin married Emma Wedgwood on January 29, 1839

Put these in order of risk, 1 to 4 ...

Shark

Swimming Pool

Deer

Handgun

Answers: 1. Deer, 2. Swimming Pool, 3. Handgun, 4. Shark

The Role of System 2

Take this simple problem. ***A bat and ball together cost $1.10. The bat costs $1 more than the ball. How much does the ball cost?***

As with almost every decision, your System 1 has an answer that comes quickly and feels right. But unless you know the puzzle already, it's probably the wrong one. The actual answer is 5 cents, with the bat costing a dollar more at $1.05, making $1.10 overall. But getting to that requires calculation, and instead our System 1 reaches for the answer that feels most immediately plausible – "10 cents". It's the easy answer, and the wrong answer.

For most of us, System 1 isn't much good for abstract calculations. Our brains can't even count very well – most of us can't instinctively tell how many people are in a room if there are any more than five. We can drill some calculations into our automatic memory – multiplication tables, for instance. But that's as far as System 1 maths goes. For problems that need calculation, we have to pause and use System 2.

Most of the ways in which System 2 helps us come from its remarkable ability to understand the abstract. For instance, System 2 is far better at assessing risk. System 1's response to risk is to rank different risks in terms of negative emotional response to their

consequences, and it's very poor at assessing the actual likelihood of each outcome. System 2, on the other hand, will consider these more abstract probabilities and come to a better decision.

The fact that System 2 can sometimes make better decisions doesn't mean we always give it the chance. There are factors which make us much more likely to use System 1 thinking even when it would be a better idea not to. Remember Mullainathan's work on people with low incomes? Cognitive load – having a lot of demands on your mental processing – increases the likelihood of relying on quicker, easier System 1 choices. Shortage of time, tiredness, hunger and sexual arousal can also make System 1 even more dominant.

There's a famous study of Israeli judges – people trusted to make highly considered System 2 decisions – which showed that the biggest factor in determining leniency was how recently the judges had taken a break. Prisoners coming up just before lunch were seldom offered parole. Those seen after lunch had far higher chances of release. When the judges were tired and hungry, they were ruled by the easy System 1 default – stick with the status quo and keep the prisoner locked up.

This leads us to another useful rule about using System 2: if possible, get someone else to do it! In our modern world, we increasingly tend to outsource calculation to computers, and risk assessment to insurers or accountants (who themselves use complex algorithms).

And as Kahneman recommends in *Thinking, Fast And Slow*, a good way to guard against bad default decisions is simply to get a second opinion from someone who may have a lighter cognitive load, less time pressure, or no emotional involvement.

System 2 lets us do things no other species can, and using it can even give us great pleasure. Many people enjoy puzzles and brain teasers – a chance to flex their System 2 at leisure. But its powers are limited. Rousing the "lazy policeman" is not easy, and the pressures of everyday life make it even harder. In most cases System 2's role is simply to post-rationalise and justify System 1 decisions, a job it does extremely well. As behavioural science guru Rory Sutherland puts it, "System 1 is the Oval Office. System 2 is the Press Office."

The fast system may drive while the slow system skives, but both can play an important role. The question is, on which one should marketers focus more attention? By now the answer must be crystal clear. Whether you're involved in innovation, marketing, communications, or brand building, you have to appeal primarily to System 1. Your customers' System 1 decisions vastly outnumber the few that rely on System 2. We live in a System 1 world. And we always have.

In the rest of this book, we'll explore the practical implications of System 1 and the shortcuts people use. The first issue we'll explore is innovation. In a world where familiarity and recognition influences our choices so powerfully, how do you successfully introduce something new so that it's accepted?

References and Further Reading

Images

Chapter cover:

Brett Ryder

Hand drawn illustrations by Orlando Wood

Image 1
A painting of the Giant Deer from Lascaux, HTO, 22/5/2009. WikiMedia

Image 2
Yacht, 3/2/2016, Pixabay

Image 3
my second face in place..., 1/1/2009, Marco annunziat. Flickr

Image 4
Charles Darwin. Albumen prin, September 1868, WikiMedia.

Image 5
The Replica Oval Office in the George Bush Presidential Library and Museum, 17/9/2010, George Bush Presidential Library and Museum. Wikimedia

Chapter 1 References

Ariely, D. (2008). Predictably irrational. New York: Harper Collins.

Damasio, A. R. (1994). Descartes' error: Emotion, reason, and the human brain. New York, NY: Grosset/Putnam Press.

Danziger, S., Levav, J., & Avnaim-Pessoa, L. (2011). Extraneous factors in judicial decisions. Proceedings of the National Academy of Sciences of the United States of America, 108(17). 6889-6892.

Ekman, P. (2004). Emotions revealed: Understanding faces and feelings. London, UK: Phoenix.

Gigerenzer, G. (2008). Gut feelings: Short cuts to better decision making. London, UK: Penguin Books.

Gladwell, M. (2009). Outliers: The story of success. London, UK: Penguin Books.

Kahneman, D. (2011). Thinking, fast and slow. London, UK: Allen Lane.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision

under risk. Econometrica, 47, 263-291.
Mullainathan, S., & Sharif, E. (2013).

Scarcity: Why having too little means so much. London, UK: Allen Lane.

North, A. C., Hargreaves, D. J., & McKendrick, J. (1999). The influence of in-store music on wine selections. Journal of Applied Psychology, 84, 271–276.

Slovic, P., Finucane, M. L., Peters, E., & MacGregor, D. G. (2002). The affect heuristic. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), Heuristics and biases: The psychology of intuitive judgment (pp. 397-420). New York, NY: Cambridge University Press.

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. Science (New Series), 185, 1124-1131.

Suggested Further Reading

Ice Age Mankind
Calvin, W. H. (2001). The ascent of mind: Ice age climates and the evolution of intelligence. Lincoln, NE: iUniverse.com.

Pattern Recognition
Rosch, E., & Mervis, C. B. (1975). Family resemblances: Studies in the internal structure of categories. Cognitive Psychology, 7, 573–605.

Processing Fluency
Alter, A. L., & Oppenheimer, D. M. (2006). Predicting short-term stock fluctuations by using processing fluency. PNAS, 103(24), 9369-9372.
Kelly, S. W., Burton, A. M., Kato, T., & Akamatsu, S. (2001). Incidental learning of real-world regularities. Psychological Science, 12, 86-89.

Lee, A. Y., & Labroo, A. A. (2004). The effect of conceptual and perceptual fluency on brand evaluation. Journal of Marketing Research, 41, 151-165.

Reber, R., Schwarz, N., & Winkielman, P. (2004). Processing fluency and aesthetic pleasure: Is beauty in the perceiver's processing experience? Personality and Social Psychology Review, 8, 364-382.

Schwarz, N. (2004). Metacognitive experiences in consumer judgment and decision making. Journal of Consumer Psychology, 14, 332–348.

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