

Scratching the Surface of Consumer Behavior

HOW THE UNCONSCIOUS
MOTIVATES CONVERSIONS



Actionable Insights for Marketing Heroes

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Note to the Reader

This ebook is based on a webinar featuring Bart Schutz, Chief Psychology Officer at Online Dialogue, hosted by AB Tasty in July, 2018.

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This ebook also expands on the topic of a previous AB Tasty ebook, “Psychology Hacks for Website Optimization”. It contextualizes and develops the insights delivered in our previous one. Each ebook provides complimentary, actionable information for CRO specialists, and either one can be read before the other.

Introduction

As conversion rate optimization (CRO) experts, we usually test a lot of things on our website. The number of steps in a checkout funnel, the color and copy of a CTA, the length of a sign up form or the placement of user reviews... none are immune from the curious hand of the website optimizer.

And as we discover optimization ideas, use advanced prioritization models, test with powerful website optimization software, and measure results with sophisticated analytics, **we're confident that, by and large, we know what we're doing.**

If our website audience fills out a survey saying they hate our pop-ups, we're confident that getting rid of a few will improve the user experience. If users say they like reading client reviews, we're sure that moving them up above the fold is a great idea to increase conversion rates. And if we run an A/B test for a hotel chain where the winning version emphasizes the cleanliness of the hotel, we're very tempted to say it's because the audience favors a clean environment.

The reality, however, is much more complicated.

Ignoring the true complexity of how consumers make decisions — or, more vastly, how the human brain operates — **is to let slip away a wealth of effective website optimization ideas.** It also means we remain ignorant as to the real reasons why a website optimization test performed the way it did. Both do damage to, **or at least derail, the website optimization process.**

Gaining a more accurate picture about the true motivations behind consumer behavior will provide CRO experts with many more fruitful ideas to test, and a truer understanding of why their optimizations do – or don't – work.

The rest of this ebook will do just that – **scratch the surface of consumer behavior** to reveal the broader picture, including in large part how unconscious mechanisms power consumer decisions, and therefore, conversions.

The first part will explore the latest framework used by psychologists to understand how the brain works – namely, **Systems 1 and 2**. We will contextualize with CRO examples as we go. The second part will focus entirely on **how to apply these two systems in order to improve your conversion rates**.

1

The Illusion of Control

To begin to understand how “the unconscious motivates conversions”, we have to come to terms with a very basic fact: **the conscious “self” that you and I experience as the agents of our lives, is not, in fact, in total control.**

Or, in other words, there’s another part of ourselves — the unconscious part — that exerts a powerful and unperceived influence over our conscious thinking, actions and decision-making. It is the recent findings of psychologist Daniel Kahneman summarized in his book *Thinking, Fast and Slow*¹, that will help us understand this.

In the book, Kahneman outlines the existence of not one, but two systems of cognition that operate in each and every one of us: the rather blandly named, System 1, and System 2.

So, how are these two systems different, and what are their characteristics?

System 1, which, evolutionarily speaking, developed far before System 2, is the unconscious system we’ve referenced above. It’s the part of ourselves that thinks “fast”, intuitively, associatively, and irrationally. System 2 is

¹ *Thinking, Fast and Slow* by Daniel Kahneman is based on a body of scholarly work that preceded its writing, as well as research with his well-known partner, Amos Tversky.

the “slow” thinking, calculating, decision-making and conscious self we’re familiar with. The self we think is running the show of our lives.

What Kahneman demonstrates is that the unconscious System 1 actually has far more influence on our perceptions, decisions and actions than we think.

“Although System 2 believes itself to be where the action is, the automatic System 1 is the hero of the book. I describe System 1 as effortlessly originating impressions and feelings that are the main sources of the explicit beliefs and deliberate choices of System 2.”²

Daniel Kahneman, *Thinking, Fast and Slow*

We’ll explain this more below, but just to give the reader an idea of the power of this System 1, take a look at the image below – no, it’s not a printing error, it is indeed an upside down photographic portrait:



Though it would depend on what you find aesthetically pleasing, most people would find the woman rather attractive, albeit upside down.

Now, what if I told you that the image below is the exact same picture as the one above, except now, it's rightside up:



Not quite as attractive now, is she? Even knowing what you know – that her eyes and mouth are placed in the wrong direction – if you look back to the first image with her head upside down, **you still won't be able to see her as she truly is**, but will perceive her as the beautiful woman.

Why is this?

It's because in this instance, **your automated System 1 is taking control over your deliberate System 2 thinking**. Let's dive into this a bit more.

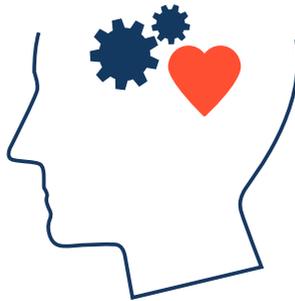
2

Deep Dive: System 1 and System 2

“System 1 operates automatically and quickly, with little or no effort and no sense of voluntary control.

System 2 allocates attention to the effortful mental activities that demand it, including complex computations. The operations of System 2 are often associated with the subjective experience of agency, choice, and concentration.”³

Daniel Kahneman, *Thinking, Fast and Slow*



Unconscious
+
Consciousness

System 1 and System 2 make up our dual-processing brain. Both systems work together, and sometimes work against each other. In some instances, System 1 will dominate System 2, and vice versa — as we saw earlier. Let’s read a bit more about how Kahneman describes their interaction:

³ Excerpt From: Daniel Kahneman.
“Thinking, Fast and Slow” iBooks.

“System 1 runs automatically and System 2 is normally in a comfortable low-effort mode, in which only a fraction of its capacity is engaged. System 1 continuously generates suggestions for System 2: impressions, intuitions, intentions, and feelings. If endorsed by System 2, impressions and intuitions turn into beliefs, and impulses turn into voluntary actions. When all goes smoothly, which is most of the time, System 2 adopts the suggestions of System 1 with little or no modification. You generally believe your impressions and act on your desires, and that is fine – usually....System 1 has biases, however, systematic errors that it is prone to make in specified circumstances.”⁴

These “systematic errors” are also known as cognitive biases, and were the subject of a previous AB Tasty ebook, [“Psychology Hacks for Website Optimization”](#). There are numerous known cognitive biases, and they can be extremely useful for understanding and influencing online behavior.

That feeling of hesitation or slight difficulty was you experiencing **the two systems** in conflict. The System 1 response – the automated, intuitive response – would be to simply read the words out, irrespective of the color of ink they were written in. However, the task was to enunciate the color of the word – and for this, deliberate, conscious effort delivered by System 2 kicked in, taking over System 1's initial response. You were able to complete the task, **but you probably still felt that little bit of resistance** – the System 1 fighting in the background. This is because System 1 will always be on, even if System 2 is able to override it in certain situations.

SYSTEM 1 IS ASSOCIATIVE

“The capabilities of System 1 include innate skills that we share with other animals. We are born prepared to perceive the world around us, recognize objects, orient attention, avoid losses, and fear spiders. Other mental activities become fast and automatic through prolonged practice. System 1 has learned associations between ideas (the capital of France?); it has also learned skills such as reading and understanding nuances of social situations.”⁵

Daniel Kahneman, *Thinking, Fast and Slow*

System 1 is a kind of thinking that is automated, fast, and intuitive. Some parts of it are learned, in particular, through associations. Take a look at the pictures below.



Chances are they make you think of a certain event that shook the world. Though neither the tower nor the airplane are the exact same ones as those involved in the tragedy of 9/11, the memory of the event was in all likelihood so powerful that **the mere association of these two stock photos triggered a System 1 association.**

⁵ Excerpt From: Daniel Kahneman. *“Thinking, Fast and Slow.”* iBooks.

CRO APPLICATION

A @you

Voor ieder spaardoel een extra spaarrekening

Meer informatie

Beste 1
Vraag 14
Middelen:
opname

For every goal an extra **savings account**

Doelgericht sparen in drie stappen: 1 2 3
1. Leg je en 100 op "Nieuwe rekening"
2. Geef de rekening die maken wilt je spaarboek.
3. Verzend je spaarboek over de rekeningen.

B you

Voor ieder spaardoel een apart spaarpotje

Meer informatie

Beste 1
Vraag 14
Middelen:
opname

For every goal a separate **piggy bank**

Doelgericht 1 2 3
1. Leg je en 100 op "Nieuwe rekening"
2. Geef de rekening die maken wilt je spaarboek.
3. Verzend je spaarboek over de rekeningen.

Winner

The conversion optimization company Online Dialogue ran an experiment with one of their Dutch clients in the banking industry. The client was hoping to improve KPIs for one of their CTAs inciting visitors to open a savings account. Consultants at Online Dialogue had an idea: **play on the associative nature of System 1 to increase engagement.**

How did they do this?

The Dutch word for “savings account” (*spaarrekening*), as in English, has a rather **negative connotation**: it reminds people of fiscal responsibility, long term planning, and stressful financial choices. The team thought that by using a similar word with the same meaning, but with a more **positive connotation**, they could **change the way System 1 processes the information** and informs the online behavior of the visitor. They decided to run an A/B test replacing the word “savings account” with “piggy bank” – a word with much more positive, nostalgic associations.

Their hypothesis turned out to be correct – **the new version was a big winner** and did in fact increase engagement, demonstrating the powerful effect of associations, and of System 1 thinking on online consumer behavior.

AND WHAT ABOUT SYSTEM 2?

Since we're more familiar with System 2, we'll spend less time explaining it. After all, this is the part of yourself that you recognize as consciously making decisions, exercising self-control and deliberating over a tricky math problem. However, there are a few things to realize about System 2 that might not be so obvious:

SYSTEM 2 HAS A VERY LIMITED CAPACITY

In the quotation cited earlier in this ebook, Kahneman talks about how System 2 erroneously believes itself to be the “hero of the story”. We all, naturally, think we're consciously making choices, directing our own attention. But a simple test can show us how easily our System 2 makes way for an automated System 1 answer.

If you ask someone to answer a series of simple math questions that nevertheless require some deliberate effort from System 2, (for example, $26 + 18$, $9 + 35$...) and then you ask them to quickly think of both a color and a tool, **about half of them will think of a red hammer**. Why is this?

Because the act of making these calculations drew on the limited capacity of System 2 and tired it out. When the question about the color and tool comes along, it was easier for the depleted System 2 to give way to System 1 – which, as we know, is automated and provides associative, intuitive answers. For most people from a Western society, it is the color red and the tool of a hammer that are the **most prototypical and the most imprinted into System 1**. It is therefore this answer that most readily comes to mind.

SYSTEM 2 REQUIRES ATTENTION

You may have heard of the following test, called “The Monkey Business Illusion”, made famous by Daniel J. Simons in 2010.

Participants were shown a video, and given the task of focusing all of their attention on counting how many times the players in white passed the ball between each other. At the end of the video, the researchers played it back to them and asked them to watch normally. Most were shocked to see, in the middle of the game, a woman in a guerilla costume walk onto the stage, beat her chest, and walk off! **Most of the participants were so focused on counting the players in white that they had no spare attention (from System 2) for anything else going on.**

This limited capacity of System 2 can have direct implications for CRO.

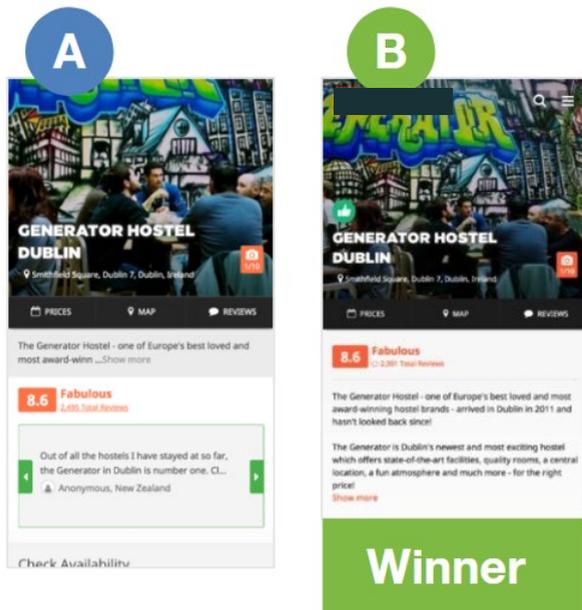
CRO APPLICATION

Online Dialogue ran an experiment for one of their clients, an online hostel booking service popular with Millennials. Through research with the client, they already knew that users who visited the site from their mobile phone were very “purpose driven” — they knew what they wanted, and were focusing their effort and attention on efficiently getting the task done. **In other words, their System 2 was in control.**

Online Dialogue decided to hone in on this System 2 driven behavior, and take into account its limited attention span, with a simple A/B test.

For mobile browsers, they decided to create a variation of a standard hostel page — the only change was to remove the user reviews section. The idea was that, for purpose driven browsers on mobile who only wanted to get the job done of booking the hostels, **reviews were just a distraction that diminished conversions.**

This indeed turned out to be the case, as version B was the clear winner.



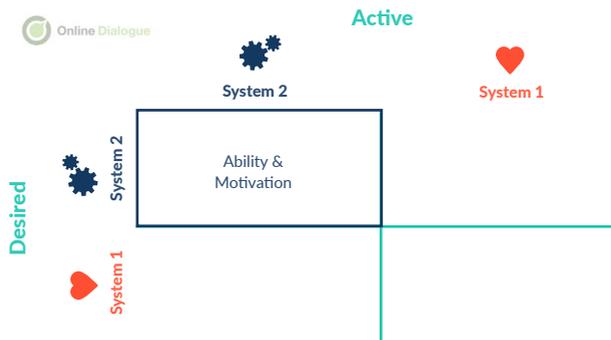
3

Putting System 1 and 2 Into Action: the BartS Persuasion Matrix

We've just learned a lot about how people behave and make decisions based on this dual-processing nature of the brain. The next step is to put this knowledge to work increasing conversion rates.

To do this, we can refer to the BartS (Bart Schutz) Persuasion Matrix.

The BartS Persuasion Matrix



The idea behind this model is to allow CRO professionals to come up with website optimizations based on the system that is currently dominant in the brain of the website visitor.

To do this, Bart's team at Online Dialogue will first analyze the data on a clients' website visitors to try and determine which system is more dominant in a given situation. This process is complex and is outside the scope of this ebook, but suffice it to say that they will look at factors like the look of the user flow, the sources of the traffic, time of day and day of the week, context (location, wifi or 3G or 4G internet connection), etc.

They will then come up with a recommendation for a website optimization, based on the purported state the browser is in versus the "desired state" that would help incite a conversion.

For example, we mentioned above the example of purpose driven hostel bookers browsing on mobile. They were System 2 driven during their browsing (the "Active" axis above), and indeed, for late funnel browsers, this is exactly what you want (the "Desired" axis). The recommended website optimization was to remove any distractions that might get in the way – in this instance, user reviews. **This is called "ability motivation", or doing everything to keep browsers in a goal-directed mindset.**



Similarly, Online Dialogue was working with an online retailer on some of their product pages, including the one shown above for beds. They made the observation that many browsers were in this goal-focused, System 2 mindset.

To keep them engaged and focused, they added a text box that explained, on average, what the bed would cost per month (based on lifespan of the product and how much it's used). Since people in this state of mind would tend to compare a “monthly price” to other monthly transactions — a monthly music streaming service, car payment or rent, for example — **it made it much easier for the reasoning, problem-solving System 2 to make a favorable comparison of the bed price and continue to the final goal.**

Now, what about people who are more in a System 1 state? Someone who might be aimlessly browsing, clicking here and there based on their associative thoughts or automated responses from System 1?

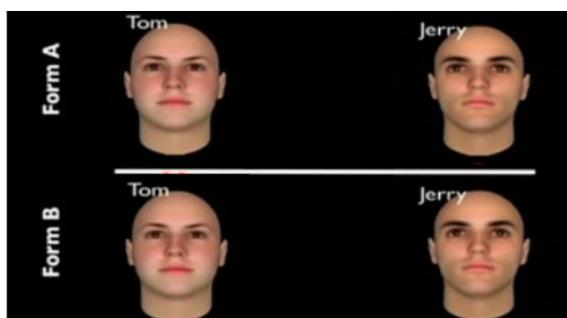
Online Dialogue ran another test with their hostel booking client. This time, on the page describing each hostel, they ran an A/B test where on one variation they highly emphasized the *cleanliness* of the hostel. This variation was the clear winner, in part because **viewers associated cleanliness with safety** – by showing high cleanliness scores and pictures of crisp, white sheets and spotless floors, browsers' System 1 made the automated association with a **safe environment** (an important factor when booking a hostel, something any seasoned traveller would know), and conversions for this version increased.



Finally, what about a situation where you want to actively incite one system to take over from the other? **More often than not, marketers prefer for the System 2 to give way to System 1.**

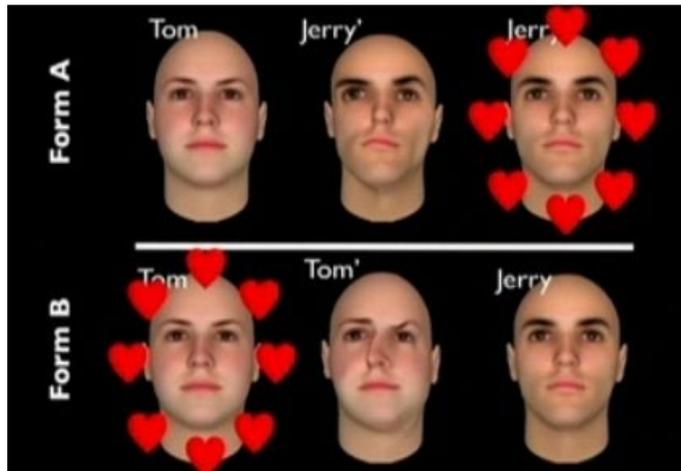
One way to do this, especially for web pages that compare products, offers, or prices, is to introduce an “ugly brother”.

Researchers ran an experiment in which they asked women to choose which man they'd like to go on a date with – the virtually constructed faces of “Tom” and “Jerry” were presented to them. The women had about a 50% preference for each – neither was excessively more attractive than the other.



However, when researchers added an “ugly brother” to the lineup, the women overwhelmingly had a preference for the more attractive of the two brothers. Rationally, the addition of the “ugly brother” shouldn’t have swayed the findings much, since the original Tom and Jerry remained the same. But when the third, less attractive option was added, **the participants had to spend more mental effort (System 2) on choosing which of the three they preferred.** As we know, System 2 is has very limited capacity. The effort used to make this choice depleted it, and an automated answer kicked in — since a choice had already been made between the “more attractive” and “less attractive”, the easiest automated route was to stick with the “more attractive” brother that had just been determined.

Therefore, the more attractive version of each brother won out.



The idea of “adding an ugly brother” can easily be applied to a variety of online CRO scenarios.

Take a look at the below example. Bart was hoping to increase engagement with one of the advertizing options he had for a job board website, the “Homepage and category page” offer at 750 euros. By adding a less attractive alternative, (a “Homepage option” at 700 euros), **preference shot up for the “Homepage and category page”, compared to when it was presented against just the “Category page”**. This is just one technique among many of how you can encourage one system to take over the other.



Post job vacancy

A

Location to post vacancy *

- Homepage + category page (750 euro)
- Category page (350 euro)

I am not sure yet: please call or e-mail me

Post job vacancy

B

Location to post vacancy *

- Homepage + category page (750 euro)
- Homepage (700 euro)
- Category page (350 euro)

I am not sure yet: please call or e-mail me

Winner

4

The Question of Ethics

With these kinds of tactics and discussions, **the question of whether all of this is ethical often arises**. For example, referring back to the test with the hostel and the unconscious association of cleanliness with safety: Bart and his team realized that this implicit association was more frequent among women than among men. This then opened up **a tricky question about the ethical responsibility of their website optimization company, as well as the client**, to make sure that the hostels these A/B tests favored were actually safer, and that these tests weren't sending an influx of young women to unsavory situations!

The question of ethics in CRO and the use of psychology in CRO is a big one, and there are no obvious answers. A basic rule of thumb is for you to **try and keep in mind what is best for the website visitor, as much as what is best for business results**. And indeed, the idea of “manipulating” behavior is not always ill intentioned — is it unethical to use one of the tactics above to, say, reduce purchase of alcohol among minors, or increase the number of sign ups to get more info about quitting smoking?

Each CRO manager has to draw their own line in the sand. Reading up on the question and taking the time to exchange with other professionals in this area can be a good first step in establishing a set of principles by which your company can run their CRO program.

Author



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Robin has studied and worked in the U.S., Canada, England and France. Her educational background is in the humanities, (McGill University and Université Paris Diderot), and her professional experience spans the B2B SaaS start-up scene in Paris, France. Interested in the crossroads of technology and culture, her aim is to produce practical, on point content to help marketers of all stripes improve their conversion rates.

AB TASTY

AB Tasty is an all-inclusive tool for website and conversion rate optimization, personalization, user engagement, and A/B and MVT testing. We serve as your digital lab, equipped with all the tools you need to create quick experiments that will help you better understand your users and customer journeys. We help you make fast, data-driven decisions that don't require technical resources.

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