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The new rules of persuasion

The new rules of persuasion

Dr BJ Fogg has been in the behaviour-changing game for more than 15 years. He shows how the latest technology is providing tools that can influence how people

Can computers be designed to change people's beliefs and behaviours? It was this question that brought me to Stanford in 1993 as a doctoral student. I admit that at first some people thought me a bit crazy: at the time, computers were used mostly for crunching numbers and storing data. But a young professor named [Cliff Nass](#) saw the potential.

The world of persuasion has changed rapidly over the past 10 years. If you haven't noticed the shift, now is the time to recognise how technology opens doors across all sectors – to engage new customers, influence people's attitudes, and, most interesting of all, change their behaviours.

Companies and individuals alike are writing software code that render persuasive experiences, influencing what we think and do. Never before has the ability to automate persuasion been in the hands of so many. With Cliff and others at Stanford, we performed the first scientific experiments to show how computers could influence people in predictable ways. We published our results in academic journals. In today's world, people don't need scientific data to believe computing technology influences people. From websites to mobile phone software, the evidence is all around us now. Persuasive technology is part of our ordinary experience.

- The fuel gauge in the [Toyota Prius](#) tells drivers how efficiently they are using gasoline. You can ask almost any Prius owner to hear stories of how they change their driving to get more miles to the gallon.
- In the living room many families use [Nintendo Wii](#) to make physical activity more engaging. The persuasive point of this device is "get up off the couch and move!"
- In the online world, we meet persuasion attempts at every click. In fact, virtually every website has a persuasive purpose: the creators intend to affect user attitudes or behaviours in some way: sign up for our service, tell a friend about this video, enter your email address.

Facebook is perhaps the most successful example of persuasive technology to date, with more than 200 million people joining the service over the past two years. Facebook has created a system, driven by software code, that persuades us to upload our picture and divulge our personal information. We invite friends and accept friend invitations. Many of us log in regularly as part of our daily ritual, part of our ordinary lives like brushing our teeth.

The trails Facebook is blazing today shows the path ahead: persuasive technology can be created by ordinary people, and those creations can reach millions.

Consider our experience at [Stanford University](#). In 2007, after I was invited to be a Developer Partner with Facebook's launch of Platform, I went back to campus and created a new Stanford course about Facebook applications. The students packed the room that first day on campus. They were eager to learn.

When our 10-week academic term was done, the applications built by students had engaged over 16 million users on Facebook. A few weeks after class ended, I once again added up the impact. The 16 million total had grown to 24 million user installations.

In designing this course, my co-teacher [Dave McClure](#) and I had hoped students would succeed in persuading people to use their Facebook apps. But no-one could have anticipated that novice students – with no budget or brand name – would influence millions to install and use their creations. As our students returned to Stanford after their holiday break, most of them allowed their Facebook apps to continue to operate. They had created persuasion machines that would keep engaging new people as the students themselves pursued other activities: studying in the library, going to parties, sleeping. Software code doesn't study, party or sleep. Over the 15 years I've studied and designed persuasive technologies, I've learned what works—and what does not. Here I share some of those insights.

Choose a simple behaviour to target



The first critical step in designing for persuasion is to select an appropriate target behaviour. I believe the best choice is the simplest behaviour that matters. Often this requires a team to reduce their ambitious long-term goal to a small near-term objective. For example, last year I worked with a large health-care company whose goal was to help people reduce their stress levels. That goal was too vague and too large-scale. So for starters we picked a smaller target behaviour: let's persuade people to stretch for 20 seconds when prompted. Note that this smaller goal was so simple that anyone could achieve it, and the success rate was measurable. This was a good starting point for the larger goal of reducing overall stress level.

Learn what is preventing the target behaviour

With the target behaviour selected, a design team can then investigate what is preventing people from performing the target behaviour. For example, if children aren't brushing their teeth each morning, what is lacking? If families in Fresno are not recycling, why not? By viewing the target behaviour through the lens of my [Behavior Model](#), one can see that the answers to such questions always – yes, always – fall into some combination of the following three categories:

- lack of motivation
- lack of ability
- lack of a well-timed trigger to perform the behaviour.

As we automate persuasion, we need to think clearly about what leads to behaviour change. Three elements must converge at the same moment for a behaviour to occur: Motivation, Ability and Trigger.

First of all, a person must have sufficient Motivation to perform the target behaviour. I define Motivation with three dimensions: sensation, anticipation, and belonging. By manipulating any one of these dimensions, designers can manipulate motivation. For example, in the case of stretching for 20 seconds, we did some early testing to find out if people wanted to perform this behaviour. Was the motivation already sufficient? The answer was "yes". We learned that many people would welcome this stretching break in their busy lives. So for this intervention, we didn't need to focus on motivation.

The second element of the behaviour model is Ability. This means that a person must be able to perform the target behaviour. In real-world practice, designers often overlook this element, assuming their audience is more capable than they really are.

Two paths lead to increased ability. You can train people to have more skills. That's the hard path: persuading people to learn new things. The better path is to make the target behaviour simpler to do. I have identified the six factors that affect simplicity as: time, money, physical effort, brain cycles, social deviances and non-routine. But you don't need to know the six factors to understand my point: in most situations behaviour change occurs only when the behaviour is easy to do.

In creating our stress reduction intervention with the health-care provider, I knew that asking people to do yoga each day would be too difficult. Instead, we picked a simple behaviour where ability would not be a barrier. After some testing, we found that stretching for 20 seconds was a match. Virtually everyone had the ability to stretch for 20 seconds. So in this intervention, Ability was not a barrier.

The key to the stress reduction behaviour was not motivation or ability. It was the third element of my model: Triggering the Behaviour. A Trigger can be a reminder, a deadline, among other things. In essence a Trigger tells someone to "do it now".

Technology interventions that require only a trigger are the easiest to create and the most likely to succeed. For example, in the stress reduction project, participants in our pilot needed only to be reminded to stretch. We didn't need to motivate them to stretch, or teach them how. Any solution designed to change behaviours must orchestrate all three elements – Motivation, Ability, Trigger – coming together at one moment. The common mistake is to focus solely on motivation. But the path to success often is about increasing ability and triggering the behaviour.

Choose the right tech channel

While technology presents us with many options for persuasion – from websites to video games – the selection of channel must match the target behaviour and the audience. To fail on either account will doom your project.

If the target behaviour is to share a message with at least one friend, then the channel could be email, online video, or social networks, because all of those channels make sharing easy. If the target behaviour is donating to a political party, then the web will need to be part of the solution because it enables financial transactions. Some channels, including online video, social networks and video games, are effective at increasing motivation. Other channels, such as installed software and specialised devices, excel at making a behaviour simpler, which increases ability.

In the case of our stretching intervention, we didn't need to motivate or increase ability. We needed only to trigger the behaviour. As a result, we chose text messaging on mobile

phones as our channel. This was the simplest, most direct, and most appropriate solution.

Texting on mobile phones is an excellent channel for triggering behaviour. The trigger message is short, easily done within the 160 character limits of texting. The phone is nearly always with people, ensuring that they will notice the trigger. In addition, this channel was a match because our target audience already used texting in their lives. If our audience had not already used texting, then the stretching intervention would have failed. I've found that, to succeed with behaviour change, you must leverage a channel people already know and use. You can't add a new technology to their lives. This combination – new behaviour + new channel – never wins.

Start small and fast

Putting persuasion into software code increases the importance of thinking clearly about target behaviours, the barriers to behaviour, and the technology channels. In addition, technology is changing the very method of creating persuasive experiences. Today, the key to success is starting small and iterating, trying out many options until you get measurable success.

This fast and nimble approach to innovation is relatively new. Even just a decade ago, creating a new product or service required hundreds – if not thousands – of hours, in addition to significant cost in material. This high cost meant that innovation teams needed to think long and hard about their ideas before implementing them. They would bring in experts, have lots of meetings, specify every detail of their design. That's the old way of innovation. And many organisations, in industry and academia, still cling to this old method. If they don't adapt soon, they will become dinosaurs, poorly-equipped for the emerging realities.

Today, innovation has a new rhythm, with the best teams launching early and iterating quickly. What drives this new method? The low cost of creation and distribution. In a handful of hours you can create a new website, a Facebook app, or a phone application. And you can share it quickly with the world. With no money down, you can test a new intervention using text messaging. Using new tools, the fastest way to learn what works in the marketplace isn't by meeting and discussing but by implementing and launching. Many crummy trials beats deep thinking.

Let's return to the case of my Facebook class at Stanford. In 10 weeks we expected students to launch and iterate at least two Facebook applications. In the classroom we preached the power of simplicity: just make something simple and ship it on Facebook. Let the market response – the metrics and feedback from users – guide your product growth.

Still, some students did not listen to our simplicity sermons. They took too long creating sophisticated applications. When they finally launched, their apps failed. In fact, not a single complicated app gained traction on Facebook. The only projects that succeeded were the simple applications. Why? The student teams with simple apps gained users quickly. Their users, in turn, gave feedback to the student teams, helping them make the applications better, including which new features to add. The successful Facebook apps did grow in complexity, but only after getting traction and only after having users guide the steps forward.

Build on small successes

My students' experience in engaging millions of users matches a larger pattern in my own work and other industry examples. When one looks at the history of successful consumer internet services, a striking similarity emerges: each service started in a small, focused way. Google offered a simple search box. Yahoo was merely a list of links. Facebook was a directory created for one university. As the small offerings succeeded, they then expanded. That approach to innovation works. In contrast, services launched with many features or ambitious goals seem almost always to fail.

In reviewing a broad range of projects from universities and companies, I've found that early attempts to create persuasive technologies are often unrealistic. For instance, using technology to help people quit smoking is a good idea, but this target behaviour is too ambitious for teams that have never before created a persuasive technology. Smoking cessation is the Everest of human behaviour change. Just as no one would expect a novice climber to succeed in reaching the summit, novice design teams should scale back their ambitions and save the most difficult behaviours, such as smoking or weight loss, for later iterations.

Simplicity requires courage. Inside big companies and academic research labs, thinking small will rarely boost your status. An innovator who says 'no' to complicated designs and unrealistic goals may appear timid to colleagues or clients. I believe big companies and academic research labs are often biased against simplicity. This is why so many of today's winning consumer services started in dorm rooms and garages. Small teams with limited budgets had to find success quickly. And that often meant figuring out the simplest solution.

Persuading people to stretch for 20 seconds is not a sexy project. But the simple SMS solution we created did indeed change people's behaviours. Data from our pilot test showed a compliance rate well above 70 per cent. With that measure of success, we were in a position to iterate. In the next trial, we expanded the SMS service to include a variety of relaxation techniques. We ran a pilot and, once again, the compliance rate was high. Our users gave us more valuable feedback on the service. At this point, the team I worked with on this project knew a lot about promoting relaxation with 160 characters delivered to mobile phones.

When a simple service succeeds, the doors for expansion open. With the success of our relaxation pilots, we can move forward with confidence in one of five directions.

- Get people to repeat the behaviour on a fixed schedule, creating a routine
- Increase the difficulty of the behaviour
- Scale the intervention to reach more people
- Target other simple health behaviours
- Expand to audiences who are less persuadable

As one sees the possibilities above, the role of our 20-second pilot becomes more evident. Not only did our team achieve measurable success in changing behaviour, we also created an infrastructure for innovation. This includes methods for team communication, designing interactions, describing our service to the public, measuring results, and answering questions from users. Putting all these pieces together is, in some ways, the real work behind the 20-second stretching pilot. Once that's in place, then future iterations build on the team infrastructure, and innovation gets much easier.

After 15 years of studying and designing computing systems to influence human thoughts and behaviour, I can finally say that the tools for persuading people – quickly and inexpensively – are here. From creating e-commerce websites to texting health messages on mobile phones, the platforms for persuasion are open to most people, even those with limited technical skill. They can launch services designed to change behaviour. What's missing today is not the technology. What's missing is the ability to think clearly about behaviour goals and the mindset of starting small and growing what works.

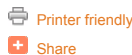
“Today, innovation has a new rhythm, with the best teams launching early and iterating quickly”

The landscape for persuasion has changed not just because technology has advanced. We have a new horizon ahead because the real differentiators – thinking clearly and iterating quickly – are weaknesses in big organisations. And they've been slow to see the shift. But now, as organisations fail to understand social media, they are slowly seeing how their old methods for designing interventions and reaching consumers are breaking.

For most of our lives, persuading people through technology channels like radio and TV belonged to the rich and powerful. That's changing quickly. Today, the potential to persuade is in the hands of millions. With these tools in hand, ordinary people sitting in dorm rooms and garages can compete against the biggest brands and the richest companies. The prize will go to those who can think clearly about behaviour change and iterate the fastest.

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