

Chapter 15



ENGINEERED ADDICTION



What's the Trend?

Greater understanding of the behavioral science behind habit formation leads to more designers and engineers intentionally creating addictive experiences that capture consumers' time, money and loyalty.

At the end of every year, Google releases an annual report that looks back over the previous year and shares some of the top trending topics people searched for worldwide. Most years, the top performing topics are fairly predictable. In 2014, the top three topics globally were Robin Williams, the World Cup and Ebola.

It was the entry that came in at number five on that list which was the most surprising.

Searches for Flappy Bird, an addictively simple game developed by a then-unknown Vietnamese game designer named Dong Nguyen, ended the year more popular than global events like the 2014 Olympic Games in Sochi, Russia.

Why was an obscure game with 1990s-style graphics so popular?

It turns out the biggest search spike came in February of 2014 when Nguyen decided to remove the game from the iTunes and Android app stores because he feared the game was too addictive. It was this addictive

quality, and the unprecedented move of removing a popular (and profitable) game from iTunes that inspired hundreds of media stories trying to deconstruct the phenomenal success of Flappy Bird, and wondering aloud whether removing the game may have been a secretly brilliant strategy to create even more demand for it.

Among the circles of game and interface designers, the more interesting questions were not about the theatrics of Dong's release and removal of the game. Instead, the most compelling question was why the game was so addictive in the first place, and whether that type of addiction could be recreated.

Creating Habit-Forming Products

One of the most prominent voices digging into the science of what he calls "behavior engineering" is consultant and Stanford University lecturer Nir Eyal. His latest book, *Hooked*, explores the art of building habit-forming products and introduces the idea that anyone building a product can intentionally aim to make it a habit by following a specific process that he terms the Hook Model.

The idea that addiction to a product or experience could be engineered (and recreated) is a popular topic. Stanford has even invested in creating a *Persuasive Tech Lab* to explore the reasons why we become motivated, engrossed and loyal to certain experiences and not to others.

All of this research into reverse engineering addiction by design is also leading some observers and willing participants to ask tough questions about the true value and ethics of engineering this type of addiction.

In an opinion piece on tech site Gigaom, behavioral designer Jason Hreha dramatically likened all of this focus on building habit-forming products to being "the addictive equivalent of cigarettes—irresistible cheap thrills that feel good in the moment, but are destructive in the long run."

Even Eyal cautions readers of his book against using his Hook Model as a recipe for manipulation. Along with learning the power of manipulation, he argues, comes the responsibility of using it ethically.

Unfortunately, not everyone chooses to use the power of creating addictive experiences responsibly.

Addiction for Evil

About a year before Eyal published his guide to building habit-forming products, two books published within six months of one another tackled the subject of addictive products with a far more negative lens.

The first was a book called *Addiction By Design*, by an MIT Professor and cultural anthropologist named Natasha Dow Schüll, who spent 15 years doing field research studying slot-machine design and player behavior at these machines in Las Vegas. In her book she explores how slot machines today are engineered to be addictive through everything from the continuous rapid wagering of electronic interfaces to the surrounding experience providing ergonomic seating, minimal required arm movement, and cash-free betting via player cards with magnetic strips.

The numbers support her conclusions, as most industry estimates say that anywhere from 75% to 85% of a casino's total overall revenue could come from slot machines. In terms of number of people affected, though, the gambling industry is hardly the worst offender when it comes to using engineered addiction. That honor belongs to the food industry.

About five months after Schüll released her book, Pulitzer Prize-winning investigative reporter Michael Moss published *Salt Sugar Fat*, an inside look at the techniques food manufacturers had been using for centuries to mass produce products designed to offer addictive eating experiences.

Through a combination of taste testing and isolating the perfect balance between sweetness, saltiness, bitterness, crunch and many other qualities related to “mouth feel” of a product, food engineers have become adept at creating food products that are impossible to resist.

Almost every list of the most addictively engineered food products feature the same well-known American snack brands: Oreos, Cheetos, Goldfish crackers, and dozens of other products. What Moss writes about is the inside story of just how deliberately these products have been manufactured.

Together, these books paint a compelling picture of the evil side of *Engineered Addiction* which is important to discuss. However this trend

is not always negative. There are important ways that this trend can be used to create something valuable and necessary.

The Upside of Addiction

The Khan Academy is perhaps the most celebrated education startup in the world.

With more than 5000 originally created videos on topics ranging from math to medical education, the nonprofit has generated plenty of excitement and belief for its ability to “flip the classroom” and allow students to learn complex topics at home through step-by-step videos.

There is an element of the Khan Academy, though, that has likely inspired more of the site’s success than any other—even though it is far more rarely discussed.

When the site first launched, the founders knew that incentives would be critical to entice learners to make a bigger time investment. So the Khan Academy launched with a series of badges that users can earn for all sorts of behaviors on the site—from successfully mastering a topic to donating time to review a student’s work.

You may be familiar with this method as *gamification*, and there are plenty of prominent voices who believe in its ability to help make learning addictive. One of them is Xprize CEO and entrepreneur Peter Diamandis, who devoted an entire chapter in his book *Abundance* to how technology is poised to impact education by helping to teach our children about the big picture of *why* the things they are learning matter. It is this combination of incentives, rewards, and meaningful learning that ultimately results in creating that sort of addictive experience that makes kids (or adults) want to learn anything.

Why It Matters

We often hear or see addiction treated as a negative force—used to describe everything from smokers’ inability to quit, to viral gaming apps people spend far too many hours playing. When that addiction is designed to happen on purpose, it may seem even more evil. Yet, even though *Engineered Addiction* certainly has its negative examples, there

are also applications, like gamified learning, where this design theory can be used toward a positive outcome.

Across industries as diverse as product design or architecture, this idea of engineering addictive experiences, products and spaces is increasingly being applied intentionally to increase engagement and results. The challenge with this trend, perhaps more than with any other, is to be among the leaders using it for positive outcomes rather than evil methods that encourage people to continue unhealthy behaviors, or waste their time and money.

Who Should Use This Trend?

Game designers have plenty of advice on how to leverage this trend, but any product design team or group responsible for creating a user interface will find the principles of this trend very useful. Information, education and learning organizations should also consider the lessons of this trend, in particular how to leverage some of the techniques that other industries such as gambling or software are actively using already.

How to Use This Trend

- ✓ **Reward engagement** – Loyalty programs reward engagement, and that same framework may be useful for building an addictive experience as well. Whether you use points, badges or some other type of incentive—the key is making these rewards visible and emotional enough that people will continually keep coming back for them.
- ✓ **Cater to a common human emotion** – Online learning website Curious.com features compilations of short videos on subjects like how to curl your hair and how to play the ukulele. The site is filled with snack-sized content, with high-quality videos and the promise of quick learning that happens so fast you are tempted to try another and another. The temptation and motivation is inferred perfectly by the URL of the site: curiosity.

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The 2016 Perspective

Addiction in the context of new forms of technology itself continued to be a big trend across the past year. A story from a recent issue of *The Atlantic* magazine, for example, focused on the rise of an entire industry of treatment centers opening across the US designed to treat Internet Addiction.

One such program, designed for phone dependent adolescents is called Outback Therapeutic Expeditions and takes “patients” out into the western Utah desert for some good old fashioned outdoor activities like building a shelter and learning to tie knots – all while their devices and technology is confiscated. The point, as it often is with any sorts of addicts, is to cure the dependency by showing the kids it's possible to live without their phones.

Another field of research related to addiction was the emerging science of neurogastronomy – the study of how our five senses all contribute

to how we each perceive flavors. At the International Society of Neurogastrotronomy's annual conference, new research and much of the discussion focused on whether it might be possible to manipulate our flavor experiences or even for science to change the way that food tastes for certain people. The implications for positive (helping patients struggling with obesity or compulsive eating to adopt healthier habits) or negative (selling addictive and highly profitable junk food) uses are wide open.

The third booming industry that shined a light on the trend of Engineered Addiction was the rise and incessant promotion of daily fantasy football gaming platforms like FanDuel and DraftKings in the US. Thanks to million dollar advertising budgets, the high visibility and popularity of the NFL and the gray areas of online gambling platforms dedicated to betting on sports – the issue came front and center for litigation and consumer attention in 2015.

As the storm clears and legislation gets signed – these sites are becoming more regulated and attention has started to turn to the people affected by these sites and those who have become all too easily addicted to the underlying ability to easily gamble online.

In the coming year, stories of how these new platforms are leading to more addictive behavior and how they are engineered to do it on purpose will lead to a new focus on the idea of how these addictions start (particularly for technology with high potential for addiction - like virtual reality), who is behind them, what role they play in all types of interfaces which we typically use and what exactly normal consumers can do to fight back.

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