

3 Takeaways Podcast Transcript
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Ep. 150: Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked

OUTRO male voice: Welcome to the 3 Takeaways podcast, which features short memorable conversations with the world's best thinkers, business leaders, writers, politicians, scientists, and other newsmakers. Each episode ends with the three key takeaways that person has learned over their lives and their careers, and now your host and board member of schools at Harvard, Princeton and Columbia, Lynn Thoman.

Lynn Thoman: Hi everyone. It's Lynn Thoman, welcome to another 3 Takeaways episode. Today, I'm excited to be with NYU Professor Adam Alter, who is the author of Irresistible: The Rise of Addictive Technology. I'm excited to find out about addictive tech, the surprising ways it works, the psychological tricks that make it so compelling and how to defeat it where it harms us. Welcome Adam and thanks so much for joining 3 Takeaways today.

Adam Alter: Thanks for having me, Lynn.

LT: I really enjoyed your book, Irresistible: The Rise of Addictive Technology and learned a lot.. What did Steve Jobs know about addictive tech way back in 2010?

AA: Jobs and a lot of other tech titans were very, very careful, even 15, 20 years ago, about exposing their kids to the same technologies that the rest of us were being encouraged to use. So, Jobs had been on stage, his final Apple event where he was discussing the iPad, and he basically said, we should all have an iPad, it's great for our kids, it's great for education, it's going to democratize education, it's a device that allows you to do all sorts of incredible things. And, as you would expect, he said, everyone else should have an iPad. But then he was asked by journalists later on, so your kids must love the iPad. Now, the obvious answer to that is, "Yes. They think it's great." But he was honest. And he said, "No, we don't allow them to use the iPad."

AA: This pattern comes up over and over again, that people who themselves work in the tech industry are the most cautious people when it comes to giving those same devices to their kids, and I think it's because they recognize that for all the benefits they tend to have, they tend to be wealthy, they tend to be well-educated. Still, the charms of these devices are such that their kids for all those benefits cannot resist them because they are human. And so, I've always found that to be an important launching point, you will always go to the people who know the best and the most about these kinds of devices, when wondering whether they're good for us to use, and in this case, we're getting a very different public image from what these people are doing privately.

LT: And it's what is called dogfooding, is that right?

AA: Yeah, so in business world, this is a term that is used. Dogfooding originally came from this very famous story, of a dog food executive, he worked at a dog food company and what he would do in his meetings when he was meeting with investors or potential investors, was he would always

make sure they were lunch meetings, and he would meet with these people, they'd all bring lunch or they would have lunch, and he would very ostentatiously open a can of the dog food that he sold, and he would eat that in front of the investors. And obviously, that's on a certain level of revolting, but on another level, it's an incredibly powerful demonstration that if he was willing to eat the same product, that it was good enough for everyone's dogs, everyone's pets.

AA: That's the extreme version of the principle, but it's a general principle in business, for example, if you work for Coca-Cola, you should never be seen to drink Pepsi and vice versa, and so you should walk the walk. But what's interesting about the case of Steve Jobs here is this departure from dogfooding, from that principle. You don't see it very often, but occasionally you do, and this is an example where Jobs was getting up on stage saying, essentially, buy my dog food, but he wasn't willing to sample it himself, he wasn't willing to use it at home, and so this is an interesting and rare case where there is a departure in private from what is being shared with the world publicly.

LT: How do the tech companies do A/B testing or color coding, what is it, and how do they do it?

AA: Yeah, so it was very, very hard to get behind the curtain in tech companies for obvious reasons. If you're writing a book that's critical of the industry, they don't really want to have much to do with you. But there are some practices that are pretty widely known and one of the practices they use, which is called color coding in the industry, this is often used in gaming, is a kind of brute force data-driven technique for figuring out the best way to deliver an experience to the user. And what they'll do is they'll think about the metric that matters most, usually it's how long you play the game, also known as time on device, which is a term from the gambling world. In other words, how long do I sit at the slot machine before I leave, and you're trying to maximize that.

AA: You want people to play your game for as long as possible. So, what you do, for example, let's say it's the game World of Warcraft, which many say is the most addictive experience we've ever been able to create as a species. World of Warcraft has had over time about 100 million players or more, by some estimates, and it's a game where you play in guilds, which is a sort of group of people, players around the world, and you have an avatar and you live inside this world called Azeroth and you go on these quests, and one thing that the creators of the game World of Warcraft have done, which is their color coding or A/B testing, is they will vary small aspects of the game over time to see how that changes user engagement.

AA: So, for example, if there's a mission, my Guild of five might go on a mission to rescue someone from a forest, what might happen is half the world that plays this mission will get a version where you're rescuing that person from a forest and then the creators will say, well, what if we put this by the ocean like a coastal mission? Let's do it by the sea, let's see what happens then, and then they might discover, Hey, when you do it by the sea, people play for an extra 10 minutes per session, so that version wins out. If you do that over and over again, you reiterate that process, say 10, 20, 30 times. The version of the game that you and I play has been coded such that these little trials by combat, whichever one wins out as being the best for that metric time on device, is the one that gets extended to the next round, and so we end up playing a weaponized version of the game that has been designed to be as hard to resist as possible. That's the process of color coding, which describes the way they color the code that describes each of these little tweaks.

LT: Let's talk about some of the drivers of irresistible screen experience. Can you tell us about stopping cues, what were the stopping cues in the 20th century and what's happened since?

AA: Stopping cues are gentle reminders in the world around us that we should stop what we're doing and move on to the next thing. In the 20th century, they were everywhere. If you read a book, a traditional book, you're flipping through the pages. You get to the end of a chapter. That's a stopping cue. A lot of people get to the end of a chapter and say, okay, now I can put the book away, put my book mark in and go on with something else, whether it's going to sleep at night or moving on with another task. When you read a newspaper, you get to the end of an article, that's a stopping cue, when you get to the end of the entire paper or a section of the paper that's a stopping cue.

AA: All of these are gentle reminders that you are between moments of engagement and you can move on, you can either decide to continue or it's a gentle suggestion to move on. What changed, I think in the 2010s in particular, was that tech platforms had the ability to systematically eradicate stopping cues. The first thing they did was they made the news feed on their platforms bottomless, so you get to the bottom of the information on the news feed for example, on Facebook, which was the first platform to do this, and instead of having to click a button, more of that content just kept spooling and so it was bottomless, it was like drinking a bottomless cup of coffee, you just never ended. And it was totally up to you when you wanted to stop, but there was no gentle cue to say, hey, maybe you want to move on.

AA: The most extreme example on screens, though, I think was the change that was made as a result of what had been learned about Facebook success by Netflix. So, Netflix introduced a feature called post play in 2012, and what post-play did was it changed the default way that you as a watcher engaged with the platform. Historically, what you had to do was you had to hit the play button to watch the next episode of a TV show you're watching, but what post-play did was it changed the default so that automatically the next episode would play, and so about 10 seconds after one episode ends, the next one begins playing automatically, and why that matters so much is that a lot of us watch, and when we watch, we go into a sort of trance like state, especially at the end of an episode, we've been watching for at least 40 minutes or 20 minutes, depending on the length of the show, and as the next episode begins playing, you're not quick enough to stop it from playing, and so that's where binge viewing comes from, you end up just watching episode, after episode, after episode.

LT: Tell us about feedback and how that also works to keep you engaged.

AA: This is as old as it gets in the world of psychology, this is not a new idea at all, but the basic idea is that humans, as a basic principle, really like feedback as do other animals. You see little children get into elevators and push every button to see them all light up because they love that idea of being able to act on the environment and have feedback. That's true of adults. Adults like feedback too. We don't get it as readily as children do, and we know that it's not okay to push every button in an elevator, but we love to know what other people think of us, and so we're very sensitive to feedback, but it's important to note that it's not every kind of feedback that's equally attractive to us. We don't like feedback that's really predictable, and nor do other animals. If it's predictable, we get bored pretty fast, what we like instead is random variable, unpredictable feedback. And that's more like what happens when you gamble, when you play on a slot machine or when you use lottery tickets or things like that, that you get feedback that is unexpected or unanticipated or just generally random.

AA: And that has been built into absolutely everything we do online, every tech experience has random feedback built into it, even basic platforms like emailing and text messaging, you never know what you're going to get. Every time you refresh your email, it could be an email you're happy about, or it could be an email you're not happy about and weirdly, it's the ones that you're not happy about, they keep bringing you back with the promise that you might get one that you like. And that's true about social media, people post on social media because they don't know which posts are going to get engagement, likes, re-shares, retweets, re-grams, whatever. And it's that unpredictability that's really important for bringing people back. So, this kind of variable feedback is really a very central part of almost everything we do online.

LT: How about juice? What is juice? And how does that work?

AA: It's an interesting thing. So variable feedback is about the delivery schedule, now, when do you get feedback. Juice is about the amplitude; how do you make the feedback more compelling or attractive or interesting. The term juice comes from video game developers who talk about making a video game where as you're playing, as you're using the controls and watching the screen as your little avatar or whatever it is, moves around. Juice is the feedback you're getting. But adding juice means that you make that feedback a little bit stronger. It could be with sights or sounds, or tethering your actions more closely in time to what's happening on the screen. But essentially what you're trying to do is inject as much juice into the experience as possible. And you see this as games have gotten more sophisticated over time. And as the processes that have run those games, the processing speed has increased, we've been able to build more sophisticated games with much better graphics, better sound and so on, and so they're much more compelling than those old school versions were 50, 60, 70 years ago. This is something that is also being done by tech companies, they add as much juice as they can to make the rewards more compelling.

LT: With all of these different strategies and tools, A/B testing, unpredictable feedback and rewards, juice and the systematic removal of stopping cues, what's the impact of all of this?

AA: There are four areas of impact, broadly speaking. The first is social, and I think this is the one that most people focus on today, we talk a lot about the social effects of all of this, especially for young people, but also for adults, are we becoming atomized, separated from other people? Is there a greater sense of isolation and loneliness, and there seems to be some evidence for that. Are we lonely? Are we exposed to bullying? Are we more anxious? Are we more depressed as a population than perhaps past generations were? Actually, that really bridges two, the social, but also psychological. So social and psychological are the first two. The third is physiological, and that when you spend eight, nine, ten hours a day on screens, that means you have less time to move your body, so we tend to be more sedentary than we might otherwise be if we weren't spending so much time on screens.

AA: We also expose ourselves to danger because we're quite distracted. There are cases of people driving very badly in response to a ding from their phone and having terrible accidents, which we know about. Tech tends to make us quite impulsive in a lot of situations, and so we behave quite rashly and take big risks, so that's the physiological side. And then the last is financial, that screens have a way of parting us from our financial resources, from our money, and they do this very successfully. We buy much more on screens than we might in person. That's why Amazon's become such a large and successful company and why e-commerce is so successful because you barely have to move - you tap your finger once, twice, maybe three times - and suddenly you've purchased

sometimes thousands of dollars worth of merchandise.

AA: So, the risks are many, and they span at least these four different domains, but I think there are probably others that that doesn't even cover.

LT: What's the impact on teenagers, on girls?

AA: Yeah, it seems like the demographic that's most affected by all of this is teenage girls. And there are lots of different reasons for that. I think one of them is that when you are separated from other people by a screen, your worst self tends to come out, and that's partly because you don't see the immediate effects of your actions. So, it's much easier to become a bully or to harass people when you don't see them standing physically in front of you responding to that. Most of us are sensitive to these cues socially in person, but a lot of us become much less sensitive to them when we don't see the immediate effects. So, screens make us callous. Girls are particularly susceptible to that.

AA: There's a particular kind of bullying that happens among girls on social media platforms. The other thing is that really, you're exposed to the very best of everyone else's life on screens, so if you're a young girl and you're trying to work out your place in the world and what you're seeing is a series of very, very high-profile models who are in what is considered culturally to be the ideal physical shape, that's going to be very damaging. And so, there's been a big rise in eating disorder concerns and a huge rise in even suicide among this demographic, which is the most concerning of all - this kind of depression and anxiety that we've seen ramp up has very, very grave consequences. So, it seems that that is particularly problematic among teen girls, tween and teen girls.

LT: And what do you see ahead with immersive virtual reality, not the virtual reality of today, but what do you see in the next five or so years?

AA: Yeah, so we know that Apple is about to release its own virtual reality suite, that's going to be very, very expensive, and so that will gate out or exclude a lot of the population from using that platform, which is I think not a bad thing. They're starting at \$3000. But give it a few years as has happened with every other tech device and it'll be \$400 or \$300. So, I don't think we're that far away from this being a common place device in the way that our phones are common place devices. And so, I think once that happens, if we as a population can't spend time together because these devices, these phones come between us, imagine what's going to happen when there are actual physical devices in front of our faces, and I think that's what's ahead...

AA: Why would you spend time in the messy real world that we're in today when you can escape at any moment to this perfect virtual world that is much more appealing, much simpler. It's idealized. It's exactly where you want be in the moment. There are going to be so many different forms of software and platforms that are available through these devices. If you want be on a beach in Greece, you can probably have the sights and smells and feelings of being on a beach in Greece. If you want speak to the five people from history - you want AI versions of those people, those five people from history who are most interesting to you - you can have a dinner party with Einstein and Mozart and whoever else you want to put in there, and those are the kinds of things we have to decide between. Do we want to do those incredible experiences virtually, or do we want to do whatever it is that we're doing in the real world which seems to pale in comparison? And so, I think that's where we're headed, and I think that's very concerning.

LT: Adam what are the three takeaways you'd like to leave the audience with today?

AA: So, I'm going to build on that last point first and just say that we often think about dealing with phones as a kind of destination, but to me, this is just a way point that we're going to be constantly dealing with new forms of tech. Phones are just the trial. If we can't manage our phones, I think it's going to be really hard for us to manage immersive AI [artificial intelligence] and AR [artificial reality] and VR [virtual reality] experiences. And now we've got generative AI models that are incredibly compelling and they're going to influence the way we live as well. We need to form better general relationships with technology, we need better technological hygiene, I guess, than we do have. The second one and this is a broader one, and this is really about education, I have a lot of critiques of education systems around the world, and I think one of the big ones for me now is that we teach very abstract subjects that are useful to a point, and I think they help us learn new ways to think, but one thing kids are not taught enough is digital hygiene, is how to engage with their devices, the dangers of spending too much time on these devices, why it's so hard to resist them.

AA: These are things that I think are absolutely essential and they should be taught as part of every elementary school curriculum as far I'm concerned, and yet they aren't. And yet these kids in many schools are given these devices, and I think there's something irresponsible about foisting these devices on young kids, but not actually explaining all the concerns. So that's the second one. And the third one is, this for me is quite important, that there is this big asymmetry in power between the companies that create these devices, the amount of data they have and the rest of us as consumers. And as a result, we are at a great disadvantage. And so, I think one thing I've seen over the last decade or so since I've been writing about this topic, is that when we band together, when we all sort of move together and work together, and there's enough of a chorus of disapproval that things start to change at these companies. But you do need a lot of the sort of grassroots level support. And then paired with that government legislation of the right kind, which is happening around the world, not so much in the US, but in other countries has been quite effective. So, I think we need more of that both grassroots ground level push for change, but we also need some help from above from governments as well.

LT: Adam this has been wonderful, thank you.

AA: Thank you so much, I appreciate it.

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