

Extreme Users: How Avatars of the Future Can Shape Innovation

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Abstract

Qualitative segmentation is a blend of art and science. There are a variety of sampling methods researchers use to guarantee a pool of participants that is representative of their target market. But for innovation research, we suggest ignoring those squarely in the middle of your target market. Instead, look to extreme users who are indicative of the future. As William Gibson famously put it: “The future is already here—it’s just not very evenly distributed.” We believe that extreme users live where the future has already arrived. In addition, these users are more articulate about their problems or needs, and more likely to employ innovative workarounds and hacks. Extreme behaviors are powerful examples of human agency and the ability to challenge and transform dominant social structures. We will explore this framework with three case-study examples: Looking to transmen and transwomen for feminine care innovation, Hikikomori for future social spaces, and the Amish for clothing sustainability.

Key words

sustainability, sampling, hack, extreme, demographic

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Introduction

Large, well-established businesses often struggle with disruptive innovation. Saddled with shareholder expectations and fearful of costly R&D, they play it safe by making incremental improvements to existing products instead of exploring the new. When they decide to splash out and invest in something different, the market research they conduct is often narrow and self-referential: they speak with the customer segments they've always served and get the same feedback they've always gotten. Or worse, they'll bypass customer input altogether, take a product they've been tinkering with for years and attempt to foist it on an unsuspecting customer base. They use research agencies and older methods to discern what customers want, and often miss the true empathy and needs in an array of quant spreadsheets and voice-of-consumer surveys. The result is stagnation, negligible profit, and me-too products that no one needs.

In our work at Bionic, we teach these companies to rewire their thinking and focus on customer pain points. We show them the value of starting with a customer problem and using their proprietary gifts to design a solution that solves it faster, cheaper, and radically better than anything they've seen to date. One of the ways we do this is by forcing them to reach far beyond typical market research segmentation to speak with extreme user groups.

Extreme user segments are more attuned to their problems than the average, middle of the spectrum user, because their problems are relatively acute. They are typically able to better articulate their pains and even share novel hacks or workarounds they have devised in response to a particular problem. Rather than sit back and do nothing, extreme users play an active role in fixing their problems and these solutions alone may serve as fodder for innovation. Our client companies can sometimes improve upon the makeshift solutions they've created in order to serve a larger population. But even if the research doesn't lead directly to product ideas, focusing on the extreme cases helps us consider radical new solutions.

In fact, extreme user research is more about opening minds than pinpointing marketable products. This small group of users gives us a sense of where trends could go if certain conditions are met, but their insights and stopgap solutions are frequently ill-suited to mass-production. They simply won't work for larger, more mainstream populations. Even so, extreme users are living at inflection points, which means they're quite articulate about their needs. Things that mainstream users have lost to familiarity are vividly present for them, so they can discuss those experiences in vivid, specific, urgent terms.

Moreover, extreme users show us *all* where the future may lead. Whether by circumstance, choice, divergence, or rebellion, they are forging far ahead of the pack. Unlike "early adopters," they are creating

their own solutions, instead of being first in line to champion solutions created by others. And when we pay attention to them, we glimpse what lies ahead.

The Case for Extreme User Segments

There are three main reasons to consider the choices and behaviors of extreme users:

1. **They are “avatars” of the future:** They use technologies and tools more creatively or intensely than others, indicating how mainstream groups may behave once adapted.
2. **They are more articulate about their problems and needs than “mass market” customers:** Since they are immersed in change, difference, or both, they don’t suffer from defamiliarization and can describe their needs in great detail. They challenge our basic assumptions and enable us to step outside our epistemic bubble with a beginner’s mindset.
3. **They utilize intriguing hacks and workarounds:** When the market fails to provide something pre-made, they improvise.

We also attempt to define the factors that have forced them to adapt, and the circumstances that would need to occur for mainstream users to follow in their footsteps. Extreme user behavior can be driven by several factors, but in order to spread (or be packaged for the masses), certain conditions must be met. Identifying these helps us imagine adjacent solutions.

The following case studies illustrate each of the three reasons why investigating extreme user behavior can yield insights into innovation.

Case One: Trans men and Trans women as Articulators of Need in Feminine Care

Introduction

When choosing extreme segments to study, we try to remove all preconceived ideas about that group. We forget what we know and start at the ground level. When a client company showed interest in launching a new offering in the feminine care space, we kick-started the process by discussing “what is feminine?” and “what is a woman?”

The word “feminine” is not defined by genitalia. The word “woman” is, but it doesn’t necessarily mean *functioning* genitalia. Of course, trans women do not have ovaries, they don’t go through

menstruation, can't carry children in their womb, and don't go through menopause. But our client was exploring feminine care products for various stages of life including premenstrual, first period, period management, postpartum care, and menopause. So, if we're looking at women who haven't started ovulating and women who've stopped ovulating, why not look at women who never ovulate? After all, current birth control offerings make it possible to opt out: Innovations like IUDs, birth control shots, and implants have made it possible to prevent periods for months or years at a time.¹

Furthermore, the client company wanted to consider this opportunity from both a physical wellness standpoint (pain, cramps, odor, healthy pH, leakage) and a mental wellness standpoint, addressing the fear and anxiety around reproductive issues and helping those who experience them build confidence. If the goal is to understand how a young girl or woman lacks confidence during life-stage transitions, transgendered women would likely be articulate, passionate, and insightful subjects to study.

Research method

Trans men and trans women comprise an extreme user group that's challenged and changed the dominant social discourse on gender, illustrating how human agency can disrupt dominant social structures. However, the end goal for our client wasn't to create a solution specifically for the trans market, since that population didn't offer a large enough business opportunity. The objective was to identify a problem that's shared by all women, to allow an extreme population to describe and define the challenges of feminine transition in a way that might spark related ideas and solutions.

Knowing that California state laws are more welcoming to the trans population,² we focused our research in Los Angeles. We spoke with twelve subjects, both trans men and trans women, including several people who were still in the process of transitioning. All participants were members of "friendship groups," a methodology that enables researchers to trigger cascading recruitment through one or two initial contacts.

When selecting primary participants for friendship groups, we borrow from the anthropological method in identifying key or primary

¹Ernst, Holly. (2019). "Skipping your period using birth control: Safety and how to do it." *Medical News Today*.
<https://www.medicalnewstoday.com/articles/322753.php>

²"Fact Sheet: California's Gender Recognition Act (SB 179)." Transgender Law Center. <https://transgenderlawcenter.org/resources/id/ca-sb179>

informants. These individuals are considered natural observers of their own culture and key connectors to others in the community. As anthropologist Marc-Adélar Tremblay outlined, we look for specific characteristics in identifying key informants. Through our screening process we first evaluate knowledge, communicability, willingness, and impartiality. Once selected, the participant's ability to recruit two to three qualified friends or fellow members establishes the fifth characteristic of a key informant: their role in the community. Key informants provide a deeper insight into what is going on around them and an insider access to their community.³

The advantage of friendship groups (through primary informants) is the ability to obtain high-quality data in a relatively short period of time. We believe the structure of friendship group is a window into the day-to-day conversations between community members. "To obtain the same amount of information and insight from in-depth interviews with other members of a community can be prohibitively time-consuming and expensive."⁴

Results

Over the course of several dozen conversations with our participants, we gleaned the following findings:

Periods are as unique as women: Our subjects reminded us that female experiences and life transitions are not one-size-fits-all. Women experience their bodies in an infinite variety of ways, and that includes fertility, menstruation, aging, and related issues. Some cope with discharge, others suffer from extreme PMS, periods can be heavy or light or a combination. Many feminine care products assume all women experience the same things in the same ways. The trans women and trans men we spoke with shared diverse stories illustrating how no two periods are the same. There is no "normal" when it comes to menstruation.

Body transitions are real and painful: Our subjects underlined how taxing physical changes can be, both mentally and physically. For instance, we learned that trans women can have phantom periods: although they lack ova and uteri, intensive hormonal treatments can induce menstrual symptoms including body soreness, tender chest, nausea, painful abdominal cramping, photosensitive migraines, and bloating.⁵ This cycle

³ Tremblay, Marc-Adélar. "The Key Informant Technique: A Nonethnographic Application." *American Anthropologist*, vol. 59, no 4, August 1957, pp. 688-701.

⁴ The key informant technique Marshall MN. The key informant techniques. *Family Practice* 1996; 13: 92-97.

⁵ Jones, Kenny. "Getting My Period Made Me Feel Like Less of a Man-Even Though I Knew I Was." *SELF*, May 24, 2018. <https://www.self.com/story/male-period->

lasts for about six to seven days and repeats roughly every five weeks. When trans men first begin taking testosterone, they may cope with intense periods that include heavy flow, painful cramps, and mood swings.⁶

The primary challenge of menstruation is the symptoms: Capturing liquid is an important aspect of period management, and one that many feminine care companies have learned to master. However, both trans women and trans men emphasized that the symptoms are the real pain point. All were eager to get help coping with mood swings, pain, fatigue, bloating, and other related challenges.⁷

Period products are overly feminized: Tampons aren't packaged as what they are: devices to capture fluid. They're packaged in pastels, given names like "pearl" and "diva," and sold in designated "feminine aisle" in most stores. For the trans population, this causes anxiety and discomfort. (We later met with college students who shared similar feelings of discomfort with the overly feminized products on the market. They applauded lines that used gender-neutral colors and language, like the brand Thinx.)

There's embarrassment and stigma attached to menstruation: We talked with one trans man who said he would hide tampons inside candy wrappers. Unwrapping a tampon in the men's bathroom is unusual, and if anyone ever asked what he was doing, he had a candy wrapper on-hand as an excuse making that distinctive crinkling noise while he was in the stall. Both trans women and trans men also reminded us that convenient, discrete packaging was desirable. When a tampon or pad falls out of a handbag, its owner is inadvertently telling the world, "I'm bleeding today." That's private information few people want to share.⁸

Conclusion

By speaking with this extreme population, we connected with individuals who were more articulate about their challenges and needs than "mass

[trans-model-kenny-jones.](#)

⁶ Ibid.

⁷ Bliss, Cass. "Here's What It's Like To Get Your Period When You're Not A Woman," *Huffpost*, August 20, 2018. https://www.huffpost.com/entry/nonbinary-period-menstruation_n_5b75ac1fe4b0182d49b1c2ed

⁸ Bliss, Cass. "What Trans & Non-Binary Menstruators Should Know About Periods." *Seventeen*, March 1, 2019. <https://www.seventeen.com/health/a20963434/trans-and-non-binary-periods/>

market” customers. For many, the problems associated with menstruation were novel or acute. For others, the desire to move away from anything period-related was urgent and emotionally charged. A small group of outliers gave us intense and valuable insights into the problem our client was seeking to solve.

Case Two: The Amish as Creators of Hacks and Workarounds

Introduction

Sustainability is a buzzword that companies across the globe are dying to leverage. Many look to supply chain, industrial streamlining, packaging, or reduced waste to make themselves appear “more green,” but few bother to investigate living examples of sustainability in action. Just as they shy away from creating groundbreaking offerings from scratch, they’d rather make a few small adjustments to their current earth-friendly policies and call it “good.”

The textile industry has a terrible reputation for both waste and pollution,⁹ so clothing manufacturers are especially keen to garner eco-conscious reputations. When a legacy clothing company approached Bionic about ways to become more sustainable, we steered them away from studying competitors who use organic cottons and low-impact dyes. Instead, we urged them to investigate a truly sustainable lifestyle. We took them to the Amish community in Lancaster, PA.

Clothing is an important part of Amish identity and an expression of faith. Plain dress marks the Amish as different from the rest of society, and helps them identify others who share their beliefs.¹⁰ This group values thrift, self-reliance, and economy, so although they will buy basics like underwear and socks at big-box stores, many make and mend their own garments.¹¹ Amish communities don’t use electricity, another choice that reflects their desire to be set apart from mainstream culture. They believe they are not to be “conformed to the world” (Romans 12:2), and have built their shared life around that central belief.¹² This consciously separate and independence-focused lifestyle means the Amish have

⁹ Friedman, Vanessa. “The Biggest Fake News in Fashion.” *The New York Times*, December 18, 2018. <https://www.nytimes.com/2018/12/18/fashion/fashion-second-biggest-polluter-fake-news.html>

¹⁰ “The Amish Dress Code.” *Amish America*, The Amish Dress Code Comments. <http://amishamerica.com/amish-dress-code/>

¹¹ “Everything You Want to Know About: Amish Clothing.” *Timber to Table*, February 13, 2019. <https://www.dutchcrafters.com/blog/everything-you-want-to-know-about-amish-clothing/>

¹² “Amish People & Amish Culture.” LancasterPA.com. <https://lanasterpa.com/amish/amish-people/>

created many clever workarounds to ensure their clothes are durable and serviceable through many years of wear.

Research method

An Amish district is composed of fifteen to twenty like-minded families who live in the same area. The community is intentionally kept small because Amish church takes place every two weeks in the homes of district residents, the families rotate hosting duties. Everyone needs to be able to fit the whole group in their home. Perhaps more importantly, groups are kept small so everyone in a district knows everyone else. Anthropologist Robin Dunbar has stated that the evolutionary structure of social networks limits us to 150 meaningful relationships at a time,¹³ and most human tribes hover around that number. Every Amish district is full of people who know and trust each other, and as you'll see, this is a condition that makes shared sustainability possible.

We spent a week speaking with people of all ages and professions within a single Amish district in Lancaster, PA, to see what we could learn about their attitudes toward and actions around clothing care and maintenance.

Results

After seven days among the Amish, we came away with the following findings:

Isolation is a barrier to sustainability: The key barrier to living a sustainable lifestyle in a typical urban setting is isolation. If you don't know or trust your neighbors, it's hard to build a circular economy: there isn't anybody in close proximity with whom you can build it. On the other hand, if you have friendly relationships with everyone in walking distance, it's easy to share hand-me-down clothes, swap tools, and help each other make small repairs. What we found in Lancaster is that sustainability is rooted in community, and when people in a discrete geographic area know and trust each other, they can choose to collaborate in ways that enable all participants to reduce waste.

Regularity eschews fashion: It's much easier to keep clothing in rotation if the clothing itself is fairly timeless *and* the wearer isn't invested in trend cycles. It's worth noting that Amish clothing styles may appear old-fashioned and staid to an outsider, but an Amish woman is quick to say

¹³ Staff, NPR/TED. "Is There A Limit To How Many Friends We Can Have?" NPR. NPR, January 13, 2017. <https://www.npr.org/2017/01/13/509358157/is-there-a-limit-to-how-many-friends-we-can-have>

that there's a huge difference between a two-dimple and three-dimple bonnet. (Consider how seriously non-Amish customers take the difference between high-rise and low-rise jeans—and how indistinguishable they'd be to a community that doesn't wear denim.) However, Amish clothing choices are more limited, constant, and practical than those of the non-Amish. If a clothing company wishes to produce truly sustainable garments, they will likely be classic, versatile, and somewhat plain.

Making as close as is practical to the point of consumption: The Amish choose to make many of the items that they wear, but they don't make everything. All of the women we met in Lancaster made their own dresses because making dresses is simple and inexpensive. Some women made shirts for their husbands, a few made pants and suits, very few made things as complex as jackets and bags, and nobody we met made their own shoes because making shoes takes years of training and highly specialized skills. There's an inverse relationship between difficulty and proximity.

The ability to mend is crucial: Many mainstream customers assume that a torn or stained shirt is ruined and send it to the landfill. Amish people value and cultivate the ability to mend their clothing (and other possessions), which keeps it in rotation even after it's been damaged. Going into this study, we assumed that Amish-made clothing would last longer because handmade garments crafted from high-quality material would naturally outlast factory-sewn fast-fashion garments. This was true in some cases, but we found plenty of polyester clothes that didn't look like they'd survive more than a year or two. The key factor was mending. Everyone knows how to sew, so if something gets ripped, they fix it. They replace buttons, hem pants, take in shirts when someone loses weight. When you have the skill to adjust a garment, you can keep it active even when your needs or preferences shift.

Understanding wealth breeds frugality: A mainstream customer has a very different view of money, earning, and value than an Amish customer. Wealth is connected to time invested among the Amish, and they have a very clear sense of how long it takes to accumulate earnings. Since members of this community either make the items they use, or buy them using cash earned from hard, often manual labor, there's a clearer connection between the price tag on a store-bought item and the amount of work needed to earn its price. Because of this understanding, clothing purchases are made very carefully and thoughtfully. No one buys a \$15 tee shirt just because it's cute and on the clearance rack.

Conclusion

Through our conversations with the Amish, we saw that sustainable fashion doesn't need to be about raw materials or manufacturing

processes. The hacks and workarounds that this group utilized proved that sharing, making, and mending were all essential, and that adopting those practices in a close-knit community makes them far easier to maintain. We also saw that a set group of timeless items—like a capsule wardrobe, a concept that’s been trending in recent years—lends itself to sustainability. The practices in this extreme user group offered our client inspiration for future projects, marketing practices, and services.

Case Three: Hikikomori as Avatars of the Future in Social Interaction

Introduction

The ways in which people socialize are changing rapidly. While some Baby Boomers are still struggling to adapt to integrated technology, younger generations grow up using social media and supplementing IRL interactions with online ones. In some cases, teens and young adults would *rather* text than talk, choosing to Insta-DM their friends while at home instead of hanging out in person. No one expects Snapchat to become a universal proxy for in-person friendships, but there’s no denying that technology is shaping our social behaviors. And the always-connected generation is becoming the loneliest generation.

Research method

For some of our client companies, business success is directly linked to customer social interactions. In industries ranging from food service to ridesharing to cosmetics, corporations have built their revenue models on the expectation that customers will be interacting with each other in shared, real-world spaces. Adapting to isolation trends and creating new offerings that enable or encourage isolating behaviors would be socially and morally irresponsible. Yet these companies recognize that the ways in which people interact are morphing in significant ways. If they want to remain relevant, they must find ways to accommodate new customer preferences, norms, mores, and needs.

One client in particular, a beverage services company, wanted to investigate socialization trends to ensure their offerings were fulfilling real customer desires. Initially, we opted to research two groups who appeared to fit the “extreme” designation: socially isolated Gen Z’ers and online gamers. The former were primarily young adults who moved back in with their parents after college and struggled to find work, forge new friendships, and build independent adult lives. The latter were serious gamers who preferred to socialize remotely.

Results

As we expected, these subjects taught us that the barrier to socializing

outside the home has become increasingly raised as physical venues must now compete with the convenience and ease of virtual connections. Customers are less and less willing to tolerate the discomfort of a crowded bar when they can voice chat on Discord while playing video games. These virtual connections can be less socially satisfying than in-person engagement, but they are exponentially easier than a night out.

We also learned that these isolated young adults find it challenging to socialize among strangers in a public space. In an always-on, “do it for the ‘gram” culture, these Gen Z customers can’t relax in spaces when there is always a judging eye or lens in the room, and are seeking a “social container” or “judgement-free comfort zone.” (Hence the appeal of online interactions.)

Although we’ve begun to brainstorm solutions based on these findings, we realized that we might not have been investigating populations that were “extreme” enough. As a result, we’ve begun to research hikikomori.

Hikikomori is a psychological condition that causes people—frequently young men—to shut themselves off from society in extreme and enduring ways. Many will stay in their houses for months or even years, posting on Reddit, gaming, watching television, living their entire lives online.¹⁴ The term “hikikomori” is used interchangeably for the condition and its sufferers, most of whom reside in Japan. It was made famous by Japanese psychiatrist Tamaki Saitō in his bestselling 1998 book *Social Withdrawal: A Neverending Adolescence*.¹⁵ In it, he describes sufferers as:

*... those who become recluses in their own home, lasting at least six months, with onset by the latter half of the third decade of life, and for whom other psychiatric disorders do not better explain the primary symptom of withdrawal.*¹⁶

It’s difficult to estimate how many people cope with hikikomori, since the nature of the condition makes it difficult for sufferers to seek

¹⁴ Elan, Maika. “Pictures Reveal the Isolated Lives of Japan’s Social Recluses.” Pictures of Life in Isolation: Japan’s Hikikomori, August 2, 2018. <https://www.nationalgeographic.com/photography/proof/2018/february/japan-hikikomori-isolation-society/>

¹⁵ Teo, Alan R. “A New Form of Social Withdrawal in Japan: A Review of Hikikomori.” *The International Journal of Social Psychiatry*. U.S. National Library of Medicine, March 2010. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4886853/>.

¹⁶ Shakaiteki, Saito T. *hikikomori: owaranai shishunki (Social Withdrawal: A Neverending Adolescence)* PHP Shinsho; Tokyo: 1998.

help or treatment. A 2016 Japanese census suggested that 540,000 people aged fifteen to thirty-nine were hikikomori, but many experts believe the real number is much higher.¹⁷ Although this extreme social withdrawal was once thought to be specific to Japan and caused by its severe social pressures, cases have sprung up in Hong Kong, Korea, Spain, Italy, France, the United States, and elsewhere.¹⁸

Conclusion

It is very difficult to locate and study hikikomori since they are hidden in plain sight. These extreme isolators aren't likely to respond to a call for interviews—even if it's posted online—since doing so may feel unsafe or invasive. Although we are still in the early stages of framing our research on this extreme user group, we feel that they have much to teach us about the drivers, motivations, and needs of self-isolators. Based on what we've already learned from studying our first two groups, and what we've gleaned from secondary research, we *expect* that hikikomori subjects might express a desire to socialize more often if the following criteria were met:

1. A location or activity was designed to create the intimacy needed to facilitate genuine connections
2. Structured activities were provided, alleviating social anxiety around initial introductions and sparking conversations
3. Spaces or opportunities to “take a breather” from the shared activity were provided and normalized

These criteria could be all be addressed creatively by our client companies. An internal Bionic researcher is currently exploring the increasing importance of marketing to online personas, as opposed to real-world demographics. As digital spaces become more sophisticated and users spend more and more time inside them, how online personas look, what they wear, and the choices they make become increasingly significant. Socially isolated Gen Z'ers, online gamers, and hikikomori all represent extreme user groups living ahead of a curve that the rest of the world is slowly catching up to, one Fortnite game at a time. By studying the needs of these extreme subsets, we can devise creative offerings and

¹⁷ Elan, Maika. “Pictures Reveal the Isolated Lives of Japan's Social Recluses.” Pictures of Life in Isolation: Japan's Hikikomori, August 2, 2018. <https://www.nationalgeographic.com/photography/proof/2018/february/japan-hikikomori-isolation-society/>

¹⁸ Gent, Edd. “Future - The Plight of Japan's Modern Hermits.” *BBC*, January 29, 2019. <http://www.bbc.com/future/story/20190129-the-plight-of-japans-modern-hermits>

solutions that will eventually suit the larger population, as our lives shift to spending a larger percentage of time online.

Conclusion

While voice-of-consumer research that targets “typical” customers yields helpful data, it is often data that simply reinforces what we already believe to be true. Speaking with extreme users offer us deeper insights. They serve as “avatars” of the future, they are articulate about their problems and needs, and they devise intriguing hacks and workarounds to address those problems and needs. When we seek out and study them, we are far more likely to uncover valuable and unexpected learnings.

In fact, the entire point of studying extreme users is that they so often surprise us. They are creative in the face of scarce resources and candid when asked to speak about the challenges they face. When we work with them to delineate the forces that have shaped their adaptations, we are gifted with insight into factors that might cause the mainstream to follow suit. Extreme users give us a window into the future because they’re already living there. It’s our job to listen, empathize, and envision the rest of the world catching up to them.

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