

Beyond human-centered design

Design thinking might be killing the planet, but beyond human-centered design could help save the world.

A report by Indeed Innovation

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1.

Introduction

From us to everything and everyone

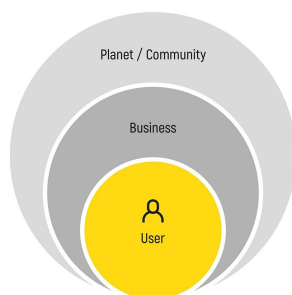
For a long time, we've thought that the world revolves around us. We've called it by different names: human centric, user centered, and customer centricity. There are nuances between these terms, but broadly speaking it's always about humankind's needs and wants, happiness, and satisfaction.

The shift from caring just about us to caring about everything and everyone should have taken place yesterday, so there's really no time to waste. In order to explain our thinking as clearly as possible and to illustrate the role and impact of human centricity, we will be questioning and reframing the practice of human-centered design.

Firstly, we will illustrate why it has become problematic to put the human at the center of everything and what it might entail when we're designing not just for the individual user or consumer's satisfaction. We'll put forth five hypotheses of what a world beyond human-centered design could look like. Next, we'll show why leaders and managers have to pay attention to cultivating a beyond human-centered mindset (even if they're not in the design world). We will then offer practical application tips in the form of tools, tips, and frameworks that you can use to go beyond human-centered design. Lastly, we will show you how to put beyond human-centered design into practice by highlighting some case studies.

We are calling it beyond human-centered design, but there are different names for this type of design approach: planet-centered design, humanity-centered design, life-centered design, or society-centered design. The key is to design in a way that you consider the well-being of humans, the well-being of animals and ecosystems, and the broader society. It's a way of designing so that you actively plan for the downstream consequences of your actions and also address the unintended effects.

Beyond human-centered design



2.

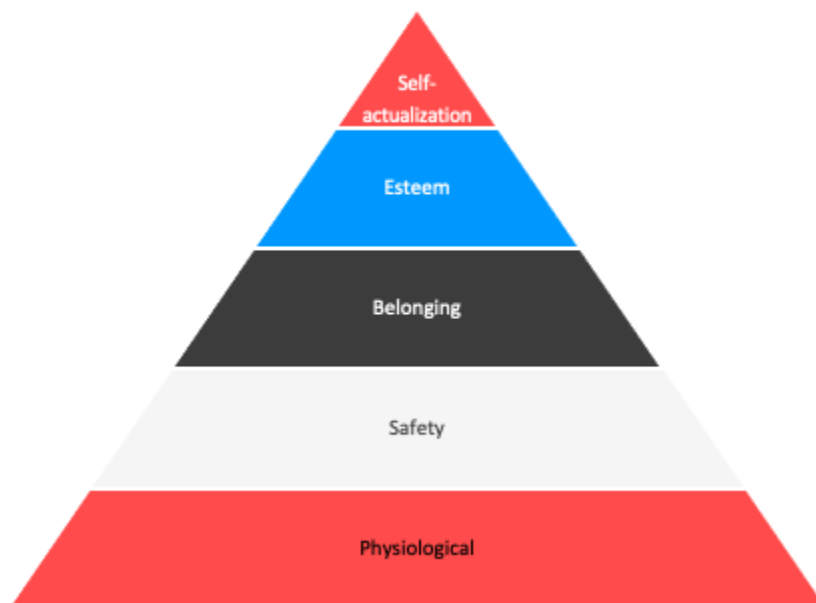
Beyond human-centered design

Five hypotheses about what might follow after human-centered design

What if we had it all wrong, all along?

What if it was never about our comfort and convenience as consumers and users but about our holistic well-being as human beings?

What if human-centered design positioned people within the wider world in which they live and accounted for the whole hierarchy of needs put forth by psychologist Abraham Maslow?



@steffi: Subtitle for Image: The **Hierarchy of Needs** describes the different levels of human needs. The level of physiological needs includes water, food, and air, which are all essential for survival. The levels above it serve increasingly subordinate but nevertheless necessary and important needs.

@steffi: Description of the levels (legend in the image):

5 Self-actualization needs: striving to fulfill one's full potential

4 Esteem needs: prestige, feeling of accomplishment

3 Belonging needs: friendships, relationships

2 Safety needs: security in its varying forms, financial, health, emotional

1 Physiological needs: air, water, shelter, food

Through such a lens, human-centered design cannot be deemed 'successful' if a person must [breathe polluted air](#), if [social bonds are weak and superficial](#), and if someone who's flipping burgers every day at McDonald's still needs to [live off food stamps](#). This implies that we shouldn't view Maslow's hierarchy of needs as a ladder to be climbed with one level making way for the next level. Instead, we need to consider all five levels simultaneously and holistically.

The other dilemma is that we're confusing wants with needs. Designers, marketers, and managers address these wants and their underlying drivers by creating products and services that can speak to them. As a rough classification we could describe these drivers as Time Savings, Money Savings, Comfort, and Ease of Use. The need for food is a must-have, or you will die. However, wanting Delivery Hero or UberEats to deliver in 15 minutes is a nice-to-have. It's rooted in personal laziness, convenience, and comfort.

Drivers of Wants



@steffi: Subtitle for Image: Drivers of Wants

It is the massive rise of products and services to fulfill all the above-mentioned countless wants that causes many of our current problems. To change that we have to find a new way to look at human needs.

At Indeed Innovation we like to argue for beyond human-centered design or the view of “[humanity-centered design](#)” as Taylor Cone, Founder and CEO of [Lightshed](#), a design and innovation firm based in San Francisco, puts it. Cone [writes](#):

“Humanity-centered design embraces the mindset that what isn’t good for the hive isn’t good for the bee. It’s a world of designing solutions focused not just on doing the most good for an individual human but also for the larger community of humans.”

In 2005 design researcher Donald A. Norman cautioned against human-centered design that leads to great benefits for some but detrimentally affects others. The [platform economy](#) is a case in point. It’s very convenient for the customer who is hailing an Uber, but the lived reality for the Uber drivers globally is [not so rosy](#), in particular because they have no safety net in the form of [social security](#).

Similarly, Thomas Both, director of the Designing for Social Systems Program at the Hasso Plattner Institute of Design at Stanford University, argues that it is important to consider the “[downstream consequences of your creations](#)” and we couldn’t agree more. However, others might not see things our way (yet). From our vantage point, human-centered design could go in several directions from here.

Five hypotheses about what might follow after human-centered design

1) Even more me, myself, and I

Between the selfies and the social media profiles, it’s hard to believe that the world doesn’t revolve around us. Songs and movies are being [curated algorithmically to our unique preferences](#), we can order something and have it delivered in 20 minutes, and we’re tracking everything from our steps to our gut health with meticulous precision.

It’s entirely possible that going forward, human-centered design will become even more of a focus. It’s not that we shouldn’t care about the individual. Instead, we should realize that by caring *just* about the individual, it won’t lead to a whole lot of good because the individual still needs to live within a wider system and interact with others in that system.

Swedish climate activist Greta Thunberg exclaimed, “Our house is on fire” and it’s because [toxic](#) individualism made us believe that we can outsource the effects of our behavior and not be impacted by it.

It's precisely because we realized this that we reimagined our role as a company and decided to start implementing beyond human-centered design so that we can shift from human to [humane innovation](#).

2) We finally pay attention to the earth's existential crisis

Carbon dioxide emissions. Excruciatingly hot summers. Tsunamis. Extinction. Food shortages. And. So. Much. More. Our planet is in crisis and by implication, we are too.

If we want to survive as a species, we not only need to do no harm, but we also need to right some of the past wrongs through our present actions. [Carbon neutral activities](#) are a good start, but we really need carbon negative organizations, like this [fashion label from New Zealand](#).

Without the earth's resources we cannot do anything. At the same time, resource scarcity is growing. For example, we should be highly concerned that water, as a commodity, started [trading on Wall Street](#). Luckily more people are realizing that we need to change our ways—and fast. The United Nations Development Program even launched an experimental index, the [Planetary-Pressures Adjusted Human Development Index](#), that calculates a country's progress by also taking its carbon emissions and material footprint into account.

By making sustainable, responsible, and circular design decisions we feel that Indeed Innovation is doing what nature is calling for. It's not that we will choose to save a tree rather than a human life but instead we will figure out how to save both.

3) A new agent arrives on the scene: The robot has needs too

In 2020 machines accessed the SEC filings that companies prepared for their stakeholders a whopping 160 million times. Consequently, companies design these documents more and more for machine readability rather than for human eyes. It makes you wonder how your target audience has changed (or is changing) and what this means for your design process.

Some robots have already been granted [citizenship](#) and [residency](#) rights. It's also been reported that in the Internet of Things, [objects will increasingly have agency](#), by making their own decisions and responding to data they've collected

beyond the direct control of humans. As such, these objects can be regarded as stakeholders. Do robots have feelings and should we care about them? It's a field that will definitely be evolving further in the coming years.

However, the jury is still out on whether robots and artificially intelligent beings should be able to [take responsibility for their actions](#). Some scholars argue that a [human](#), directly or indirectly, will always be responsible for the AI that's been coded into existence. A different school of thought argues that by assigning rights to robots, it's less about protecting the robots, than about protecting humanity. When referring to the increasing use of anthropomorphized robots, Woodrow Hartzog, a professor at Northeastern University, [explains it as follows](#): "While it may not be important to protect a human-like robot from a stabbing, someone stabbing a very human-like robot could have a negative impact on humanity."

Depending on the purpose of the solution, we think that design decisions thus have to be made so that they work for machines too. The interaction between the human and the machine, as well as the consequences of this interaction, must also be accounted for.

4) Global resiliency becomes a must-have

As society faces a future of global warming, growing inequality, and geopolitical tensions, a [resilience thinking mindset](#) becomes increasingly necessary. Whether it's COVID or Brexit—in our globally interconnected world—change is constant and there's never a dull moment.

Yes, there's an argument to be made for designing flexibly so that you can 3D print manufacturing parts locally if a nuclear reactor explodes in China and disrupts global supply chains. However, it goes beyond individual shock absorption. It's not about building a seawall so that New York can save itself and doesn't sink. It's about making design choices so that no place, regardless of whether it's Bangladesh, Lagos, or Venice, ends up falling into the ocean.

What we need to realize is that even if we end up protecting ourselves in our little corner of the world, we're not really protected if on a systems level, German ship captains need to rescue refugees in the Mediterranean or if hunger and social instability lead to war in the Middle East where American soldiers end up being stationed.

In design thinking, the key question tends to be whether the right problem is being solved. According to Taylor Cone, Founder and CEO of [Lightshed](#), a design and innovation firm based in San Francisco, a resilience thinking mindset frames the question differently: “[How useful will this solution continue to be as the problem space evolves?](#)” Traditional resilience tactics could be considered during the design process. According to Dirk Helbing, Professor of Computational Social Science at ETH Zürich and Peter Seele, Professor of Business Ethics at USI Lugano these [tactics](#) include redundancies, a diversity of solutions, and decentralized organization. They also argue that solutions need to be locally sustainable for long periods.

We argue that we’ll only truly be able to be more resilient, if resiliency increases across the board and if we realize that a problem will continue to shapeshift, and that we need to plan for that.

5) Future-proofing as a new mindset for creators

If we really want to make the world a better place through design, then we need to address the problems that exist and consider them during the design process. We should spend less time just tinkering with technology to create talking emojis and the like and more time to design solutions for some of the bigger, messier, and wicked problems we already face today.

For example, the rapid aging of Western populations is creating a multitude of challenges. The silver tsunami is heading our way, but we don’t seem to be properly planning for it. Aging populations [raise many questions](#), among others, care facilities versus living at home; saving and funding for retirement, career reinventions, and more. On the other end of the demographic spectrum, by 2050 a quarter of the world’s population—[2.5 billion people](#)—will be living on the African continent. This is an enormous group of new consumers. To take but one example: If we know that [plastic pollution](#) is already a problem now, then surely we need to address this so that we can engineer this out of the system before the population of Africa doubles? Similarly, [urbanization](#) is not going anywhere anytime soon. How do we design cities so that people [don’t want to escape them](#)?

With these many and varied challenges, we have a collective duty to keep these issues in mind and integrate them into our process for every new product or service that we create. Some focus on the Sustainable Development Goals,

others on the circular economy, or on diversity and inclusion. The road taken doesn't really matter because there's so much work to do.

At Indeed Innovation we think that it's important to approach design proactively so that we account for these trends that will have wider rippling effects.

Conclusion

Ultimately, a beyond human-centered design approach will need to account for and blend all five of these hypotheses. One thing is certain though: The era of human-centered design must end for it's in large part because of human centrality that we are where we are. As Jan Helleman, experience designer at frog London, [says](#): "Becoming planet-centered is not simply about eliminating the human from human-centered design but evolving what it means to be human-centered at all, which is to acknowledge where humans fit in the world and what our real needs are."

Lily Cole, cofounder of Impossible, an innovation group, [argues](#): "I would say planet-centric design is user centred, because it's in humans' best interests to have a healthy planet, it's just looking at it with a slightly wider spectrum than our short-term reward cycles."

It cannot just be about humans anymore; it should be about humans and so much more.

3.

Implications for management

Those not in the design world should take note too

Top of mind for business leaders and managers are shareholder value, KPIs, and revenue. However, these metrics are increasingly being influenced by beyond human-centered philosophies and actions.

Customer expectations are changing and companies are being held to higher standards of ethical behavior, transparency, and trust. Those who adhere to or exceed these expectations will triumph over their competitors who choose inaction. It's only a matter of time until regulations force the laggard to come to the party as well.

The following four aspects namely, regulation, customer expectations, competition, and transparency and trust are interlinked, but for the sake of explanation we'll be deconstructing each one separately.

Regulation

You can either work to become a more sustainable and beyond human-centered business, or government, or your employees, will force your hand. The time taken now to determine your way forward will leave you with some wiggle room and a chance to participate in creating the future of your business. When the climate crisis gets worse, you will likely just receive commands from the government or Mother Nature herself, and you won't have any other option. It's your call.

Some developments to chew on:

- In March 2021 the EU's Sustainable Finance Disclosure Regulation (SFDR) [came into effect](#). Rolling out over the next two years, it aims to prevent greenwashing by demanding that asset managers back up their sustainability claims in a concrete manner.
- Consider also that the European Parliament is [pushing](#) for the EU to introduce legal targets that stipulate the required amount of recycled content that products need to contain. The goal is to decrease the input of new raw materials, address plastic pollution, and minimize waste. Since 1 March 2021 "companies that sell refrigerators, washers, hairdryers, or TVs in the European Union will need to ensure those appliances [can be repaired for up to 10 years](#), to help reduce the vast mountain of electrical waste that piles up each year on the continent."
- The French government [plans to forbid](#) any domestic flight if it's possible to get to the desired destination in under two and a half hours by train. It's a start for sure, but many of the key culprit routes fall outside of this time limit. In Germany, Lufthansa and Deutsche Bahn are working together to ensure that passengers don't fly to the international hub airport of Frankfurt but rather travel there by

train. Back in 2019 the German Green Party [voiced its belief](#) that domestic flights in the country should be non-existent by 2035.

If the government won't move you then your employees will.

- Uber drivers in the United Kingdom won a [landmark case](#) in the UK Supreme Court in 2021, which means that Uber has to classify and treat its drivers as workers and not as self-employed contractors. By implication, Uber drivers would be entitled to minimum wage and holiday pay. Cases like this are setting the stage for the wider gig economy.
- Consider also the group of Google employees who have formed The Alphabet Workers Union (AWU) early in January 2021. Business Insider [reports](#) that the AWU “aims to promote inclusive working conditions and ensure Alphabet acts ethically in the best interests of society and the environment.”

Changing customer expectations

Customers are more aware of what's going on in the world and many are trying to bring about change in the small ways that they can. One such way is through the products and services that they buy and the businesses they support. Lisa Edinburg, Woolworths customer in Australia, [says](#): “As a shopper, and a parent of young children, I want to know that brands I support are working to create a safer future for my family—it definitely plays a role in my shopping decisions.”

Consumer pressure and willingness to speak up should not be underestimated. George Floyd's death in 2020 fueled Black Lives Matter protests and outcries across the globe. Businesses weren't let off the hook and rightly so. On social media, posts were floating around about how companies were standing in solidarity against systemic racism, inequality, and injustice. A few years ago mere lip service might have cut it but those times are long gone. Companies were being called out on their inaction and inauthenticity, e.g. Universal Standard, a clothing company that claims to be inclusive was [criticized heavily on social media](#) for not practicing what it's preaching.

For some time, many have claimed that consumers aren't putting their money where their mouths are, but this seems to be changing. A study by NYU Stern's Center for Sustainable Business looked at the purchasing behavior of U.S. consumers in the consumer packaged goods category. They [found](#) that “50% of CPG growth from 2013 to 2018 came from sustainability-marketed products.” Also note that “products marketed as sustainable grew 5.6 times faster than those that were not. In more than 90% of the CPG categories, sustainability-marketed products grew faster than their conventional

counterparts.” It’s not just that consumers say they will buy better, they’re actions are actually reflecting it.

Competition

Indeed Innovation asked Kwame Ferreira, founder and CEO of Impossible, a leading innovation group how the world will get profit driven companies to change their behavior through design. His response? No one’s going to change unless you provide them with a better alternative.

It’s a good thing that there are some trailblazing businesses proving that a different way of operating is possible and that it makes sense on multiple levels. If you’ve been asleep this last decade, we’ll say it one more time: Sustainable companies outperform the non-sustainable ones in more ways than one.

Financial Success: A [Harvard Business School study](#) looked at 180 American companies, 90 of which were ‘High Sustainability’ ones and 90 of which were categorized as ‘Low Sustainability’ ones. The sustainable firms [did much better](#)—they “attract better human capital, establish more reliable supply chains, avoid conflicts and costly controversies with nearby communities (i.e., maintain their license to operate), and engage in more product and process innovations in order to be competitive under the constraints that the integration of social and environmental issues places on the organization.” The ‘High Sustainability’ companies “significantly [outperform](#) their counterparts over the long-term, both in terms of stock market and accounting performance.” The researchers also [found](#) that “investing \$1 in the beginning of 1993 in a value-weighted (equal-weighted) portfolio of ‘High Sustainability’ firms would have grown to \$22.6 (\$14.3) by the end of 2010. In contrast, investing \$1 in the beginning of 1993 in a value-weighted (equal-weighted) portfolio of control firms would have only grown to \$15.4 (\$11.7) by the end of 2010.” For those who only understand the language of money, the money speaks.

Longer lifespan: Sustainable firms also outlive their non-sustainable counterparts. Corporate Knights and Thomson Reuters Datastream [established](#) that the “average age of a Global 100* company is 74 years, versus 53 for companies in the MSCI All Country World Index.” (*A Global 100 company is one of the 100 most sustainable corporations in the world).

Attractive to investors: Larry Fink, CEO of BlackRock (the world’s largest asset manager), has [said](#) that the “tectonic shift” to sustainable investment will continue and that BlackRock will be asking companies to explain how their business models will

function in a net-zero economy.

Attractive to customers: As beyond human-centered companies become more successful, they become serious rivals.

If you're staying where you are and your competitors are moving ahead by doing more of the right things right, your window of opportunity is narrowing. If your product is in the same price range and offers the same utility as the one next to it but yours lacks a [climate neutral certified label](#), you'd better hope that your brand has a woke and beloved influencer smiling on the package to try and divert the customer's attention.

The CEO of chemical firm BASF, Martin Brudermüller, [believes](#) that Germany needs to take the lead to create the technologies that the climate crisis requires. If the country doesn't step up, then China will. The company is also [planning](#) a carbon neutral factory (its first) in India and [aims](#) to keep its carbon emissions flat through 2030. At first glance this seems good and well, but its peers like Dow, DuPont, and PetroChina have [committed](#) to being carbon neutral by 2050.

Potential to disrupt: You can either disrupt yourself or wait to be disrupted by someone else. Ikea decided to do it themselves. In two years, all Ikea stores will be selling second-hand products as well. Caroline Gastaud, head of sustainable development at Ikea Belgium, [says](#): "We realise that we need to change the way we do business to reuse, repair, repack and recycle. Here in the store, the customer can already buy products that are exhibition models and models that have been repaired and repackaged. But in these spaces [The Circular Hubs], the customer will also be able to resell his old Ikea furniture." Not only will Ikea sell second-hand goods but it's strategy also includes manufacturing new products in a way that will make them [last longer](#).

Similarly, if you're not trying to figure out how to do better and be better, then someone else will. Let's assume you're L'Oréal and the producer of Elvive shampoo. Sales have been steady for as long as you can remember and then gradually, with each quarterly report, you start seeing a worrying decline. After closer investigation and a million Euro market research study later, you learn that consumers have been shunning your shampoo bottles for a new kid on the block. [Ethique](#) is just one such example, but here's why they're chomping into your market share. New Zealand based Ethique manufactures soaps, shampoo, and cleaning products in bar form and concentrated form where you only need to add water. Their products and shipping are plastic free, the brand is carbon neutral, they plant a tree for every online order, they donate 20% of their profits to charity, their products are vegan and not tested on animals, they don't use palm oil, and they pay living wages. On top of this, their products work and offer

better value for money by lasting longer than traditional alternatives because the products are so concentrated. Your typical shampoo bottle contains up to 80% water whereas Ethique only sells you what you cannot find in your tap already. With every pure and proper move, the life-giving companies like Ethique are increasingly drawing attention to themselves.

Transparency and trust

According to the [2021 Edelman Trust Barometer](#), business is the only trusted institution (compared to government, NGOs, and media) registering a 61% trust level globally. Business is also the only one of the four institutions that's deemed to be ethical and competent. In a sense, business is the last one standing and has a real opportunity to fill the trust void in a meaningful manner: 86% of people want CEOs to speak out publicly about societal issues and 68% want CEOs to step in to fix societal problems when governments neglect to do so.

It's possibly because people feel that business is their last hope that they won't let poor and hypocritical behavior slide. Paseo, an Indonesian facial tissue brand, [brought a box to market](#) with the outline of endangered animals on the outside. The idea was that children would engage in mindful coloring. The company was called out for its hypocrisy: such marketing from a company that's been accused of clearing and burning animal habitats repeatedly and that's responsible for more than 2 million hectares of deforestation. Then there's [Shell](#) who asked people on Twitter what they were willing to change to help reduce emissions. This from a company who knew about the dangers of fossil fuels for thirty years and went along with business as usual anyway.

Sprout Social [found](#) that just under 60% of respondents believe that businesses are morally obligated to be transparent. The most important topics that respondents want transparency on: product/service changes (53%), company values (53%), and business practices (50%). Not only do consumers want business to be transparent but they're also willing to support and reward the ones that build and nurture their trust: "73% of consumers are willing to pay more for products that guarantee total transparency." Companies that exhibit the right type of authentic transparency thus stand to benefit—companies like Buffer and BMW. Buffer is completely open about the salaries it pays. Anyone can view salary by position [here](#) because the company has got nothing to hide. Then there's [BMW](#) who developed AI algorithms to relieve workers of monotonous quality control tasks and who published the code publicly to encourage the buildout and improvement of the technology for others and for itself. Sharing is caring as they say—and consumers take notice of small actions like this.

10 key takeaways

- You can either work to become a more sustainable and beyond human-centered business, or government, or your employees, will force your hand.
- It's not just that consumers say they will buy better, they're actions are actually reflecting it.
- Consumer pressure and willingness to speak up and call out hypocrisy should not be underestimated.
- Sustainable companies outperform the non-sustainable ones in more ways than one.
- Sustainable firms outlive their non-sustainable counterparts.
- If you're staying where you are and your competitors are moving ahead by doing more of the right things right, your window of opportunity is narrowing.
- You can either disrupt yourself or wait to be disrupted by someone else.
- If you're not trying to figure out how to do better and be better, then someone else will.
- With every pure and proper move, the life-giving companies are increasingly drawing attention to themselves.
- Business is the last trustworthy institution standing.

Where does this leave managers?

In the words of Kwame Ferreira: "Creators need to be leaders. There needs to be an element of leadership that is lacking." Ferreira says that the current way of operating business as usual is amazing for shareholder value, for the bottom line, and for profit but it's really not conducive to planetary balance. He continues: "The goal here is balance and as creators we have a responsibility to get to that."

Ferreira cautions against companies that are exploiting people's blind spots: "We're very reptilian; we make decisions very irrationally and very emotionally in the end. We have a whole bunch of industries who are taking advantage of that. It's really important that we understand this and that we embrace our humanity—to see ourselves as fallible machines that can be hacked." Currently companies are using this fallibility to foster behavioral change for the sake of sales. Beyond human-centered companies should not mine humanity's weaknesses for their own benefit at the cost of the wider system. Ultimately, creators need to become leaders and leaders need to make room for the creators to lead. It's as simple as that.

4.

Application if you're in the design world

Tools, tips, and frameworks to help you go beyond human-centered design

As the implications for management shows, we need a new perspective on design. Our current methodologies, like design thinking as we know it, are simply quite outdated. Or as Kwame Ferreira put it: “Design thinking is killing the planet.”

We therefore collected the most relevant frameworks and tools to give you an overview of new approaches.

1. Xenodesign - consider multiple stakeholders' experiences

Kevin Slavin, Assistant Professor and Founder, Playful Systems at MIT Media Lab, [formulates](#) the pertinent question that has started to hound the practice of human-centered design: “When designers center around the user, where do the needs and desires of the other actors in the system go? The lens of the user obscures the view of the ecosystems it affects.”

Designer Johanna Schmeer echoes this sentiment. It's not just about considering the needs of the other humans, who are not your users. What is required is to consider the other-than-human actors as well: “ecologies, bacteria, air, soil, artificial intelligences, etc.” She [writes](#): “In times when robots are granted citizenship and residency rights, undefined forests and mountains are given the same legal status as humans to protect them from ecological disaster, and in which we now understand that humans are to a large extent other-than-human, hosting more microbial cells in our body than human cells, our attitudes toward design and human-centeredness need to be reexamined.”

Schmeer [argues](#) that the problem is that the future people want is not necessarily the same as the future that “the environment, an AI, or your gut microbiome wants.” This is why she makes the case for xenodesign, because while it does not disregard the human, it endeavors to account for multiple perspectives simultaneously, by paying equal attention to the experiences of multiple stakeholders: from the human, to artificially intelligent beings, to the air, bacteria, and beyond.

Xenodesign can be applied practically in the following ways.

1.1 Object oriented design

Object oriented design can help designers to build empathy by forcing them to [look at the world from a different perspective](#).

Consider philosopher Timothy Morton's concept of a [hyperobject](#), e.g. capitalism or climate change—intangible, abstract, non-things. When designing, we won't always be

able to determine fully or with complete accuracy how a design will interact with hyperobjects, but by taking the time to reflect in this way, we are at least contemplating interconnectedness instead of just ignoring it.



<https://jods.mitpress.mit.edu/pub/6qb7ohpt/release/3>

Then there are, what game designer and writer Ian Bogost calls, [ontographic machines](#). These help humans to become and experience life from another, non-human viewpoint. Urban mobility research lab moovel conducted a project called [Who Wants to Be a Self-Driving Car?](#) through which the person mimicked the position and eye level of a car and could experience what an AI would see on the road with the help of a VR headset.

1.2 Discursive approximations

Discursive approximations aim to tap into and engage a variety of people to think about a design. Schmeer [lists two ways](#) to do this. Provocations are strongly rooted in the fictional and offer a balanced scenario by mentioning positive and negative consequences. The inputs from discussions with various audiences are then used to fine-tune the design until something concrete is created. Hyperstitions, on the other

hand, are also fictional, but include the steps and connections of what needs to be done in order to achieve the desired design or result. They are similar to [backcasting](#) where you work backwards from your end goal to figure out what will get you there. In effect, you go from fiction to reality.

1.3 Critical use

Thirdly, Schmeer [argues](#) for critical use—the belief that designs should not be displayed in galleries and museums but should find their way into our lived experience where they can challenge our thoughts and actions.



<https://jods.mitpress.mit.edu/pub/6qb7ohpt/release/3>

For example, Ding3000, a German design studio, created a [candleholder which needs to be plugged into an electricity socket](#). The candleholder does not need the electricity, but it can only be used when fitted into the socket. This confronts the person to ponder electricity usage, light, and energy in a way that is real, experiential, and memorable. Much more effective than just listening to a TED talk about the subject!

2. Actant Map - give the environment a voice

Another way to ensure that you bring the voice of the environment into the conversation is to draw and plot an actant map. Human and non-human actors are both deemed to have agency.

Actant Mapping Canvas

Will help you include non-human actants into environment-centred design process.

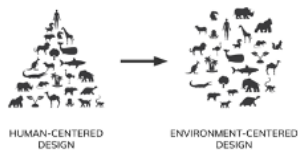
Project name:

Fundamentals

1. Think about each stage of product / service **lifecycle**.



2. Think about **everyone**.



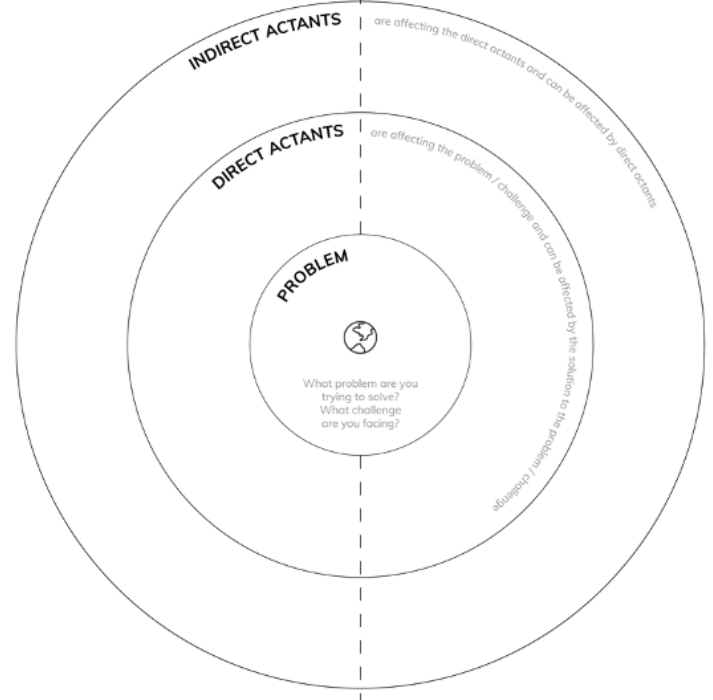
3. Get inspired by:



Actant Mapping Canvas by Monika Sznel & Marita Lewan | unpacking.design

Human Actants

Non-human Actants



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Actant Mapping Canvas

Will help you include non-human actants into environment-centred design process.

Project name:

Fundamentals

1. Think about each stage of product / service **lifecycle**.



2. Think about **everyone**.



3. Get inspired by:



Actant Mapping Canvas by Monika Sznel & Marita Lewan | unpacking.design

Human Actants

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3. Non-human Personas - voice the needs and concerns of non-human actors

Non-human personas can also be created to help make the needs and concerns of the environment explicit.



based on data from:

- phys.org
- helcom.fi

NON-HUMAN PERSONA

BALTIC SEA

*Over 90% of my area is undergoing **eutrophication** processes. You know, **nitrogen** and **phosphorus** from human farmlands have been falling inside me **for decades**, which makes algae act crazy! It annoys me A LOT! **I'm suffocating!** And **deep in my heart it's getting darker and darker**. No fish wants to come for a little chit-chat anymore ...*

NEEDS

- I have only two: **stop polluting me** with fertilisers and piles of sewage coming from your farmlands & cities
- **Stop overfishing my babies!** Poor baby fish have no time to grow or regenerate!

CONCERNS

- I can't get rid of all of that human shit on my own. I have no superpowers, only biological cycles!
- I'm the **second largest sea dead zone** on Earth! Sorry, that means **less oxygen for you, humans**.

<https://uxdesign.cc/your-next-persona-will-be-non-human-tools-for-environment-centered-designers-c7ff96dc2b17>

4. Future Design - hear from future residents

Consider also the Japanese political movement named “[Future Design](#).” In small towns and large cities, there’s a new type of city-planning meeting being held. One group is designated to act as advocates for current residents and a second group wears special ceremonial robes and acts as “future residents” from the year 2060. Research has

found that these imaginary residents from the future “[advocate for more transformative changes in urban planning, especially around health and environmental action](#).”

5. Doughnut Economics - meet the needs of people within the means of the planet

Economist Kate Raworth’s concept of Doughnut Economics contains several principles that designers would do well to heed. The [Doughnut](#) is a “compass for human prosperity in the 21st century, with the aim of meeting the needs of all people within the means of the living planet.” The Doughnut Economics Action Lab [explains](#) these principles as follows:

- 1) Embrace the 21st century goal: Meet the needs of all people within the planet’s limits.
- 2) See the big picture: Note the various roles and actors and how they interact, from households, the commons, the market, and the state.
- 3) Nurture human nature: Focus on strengthening community relationships, building trust, and looking after the well-being of people; make the circle bigger by widening participation and promoting diversity.
- 4) Think in systems: Realize that elements within a system influence one another and be on the lookout for dynamic effects, feedback loops, and tipping points.
- 5) Be distributive: Share value with those who helped to create it and aim to redistribute power in order to build more equity in society.
- 6) Be regenerative: Share, repair, regenerate, and steward; think of the climate and energy when making decisions.
- 7) Aim to thrive rather than grow: Consider becoming better rather than bigger and don’t let growth be your ultimate goal.

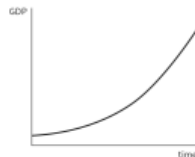
Seven ways to think like a 21st century economist

Seven Ways to Think:

From 20th-Century Economics

To 21st-Century Economics

1. Change the Goal



GDP

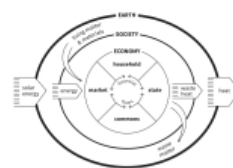


the Doughnut

2. See the Big Picture



self-contained market



embedded economy

3. Nurture Human Nature

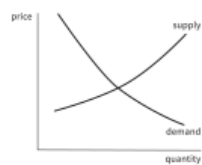


rational economic man

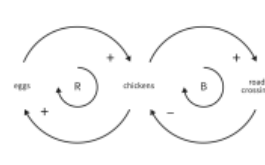


social adaptable humans

4. Get Savvy with Systems



mechanical equilibrium

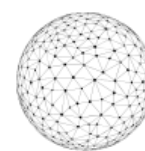


dynamic complexity

5. Design to Distribute



growth will even it up again

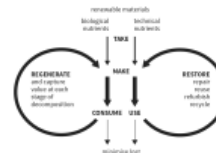


distributive by design

6. Create to Regenerate

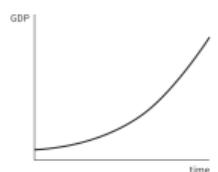


growth will clean it up again

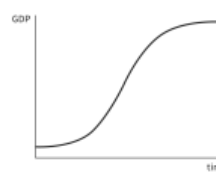


regenerative by design

7. Be Agnostic about Growth



growth addicted



growth agnostic

<https://doughnuteconomics.org/about-doughnut-economics>

6. Planet Centric User Journey - make outcomes for the planet visible

Information technology and services company [Vincit](#) has created a [Planet Centric Design Toolkit](#). It shows that current design thinking methods can readily be adapted to account for a more inclusive assessment during the design process. For example, why not complete a Planet Centric User Journey on your next project? This way you could see how consumers' use of your product or service might lead to beneficial or detrimental outcomes for the planet.

Planet Centric User Journey

How sustainable are our user's actions?

Description:

This canvas supports you at considering how your product or service is used by consumers, as you have the power to influence their behaviour to be planet positive or planet negative. Also, it helps you close the scope of your project. Here you can prioritise what problems to focus on now, in regards to your user experience.

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Instructions:

1. This canvas requires a lot of space. Draw it on a wall or large paper and gather your team around it.
2. Step into your user's shoes and consider their experience step by step. Write each step in your user's journey on a separate sticky note. Start with how users get familiar with your product or service. Add all actions until they dispose of your product or service. E.g. how they get to know it, how they acquire it, how they use it, and how they dispose of it.
3. After adding all the actions, discuss if these are planet positive, negative or neutral. Move them up or down to evaluate their impact.
4. Consider what opportunities there might be to improve this service. E.g. it might be the planet negative actions that you can influence. Also, there might not be any planet positive actions at all, and you should consider how to empower your users to be planet positive while using your product or service.

Planet positive

Actions

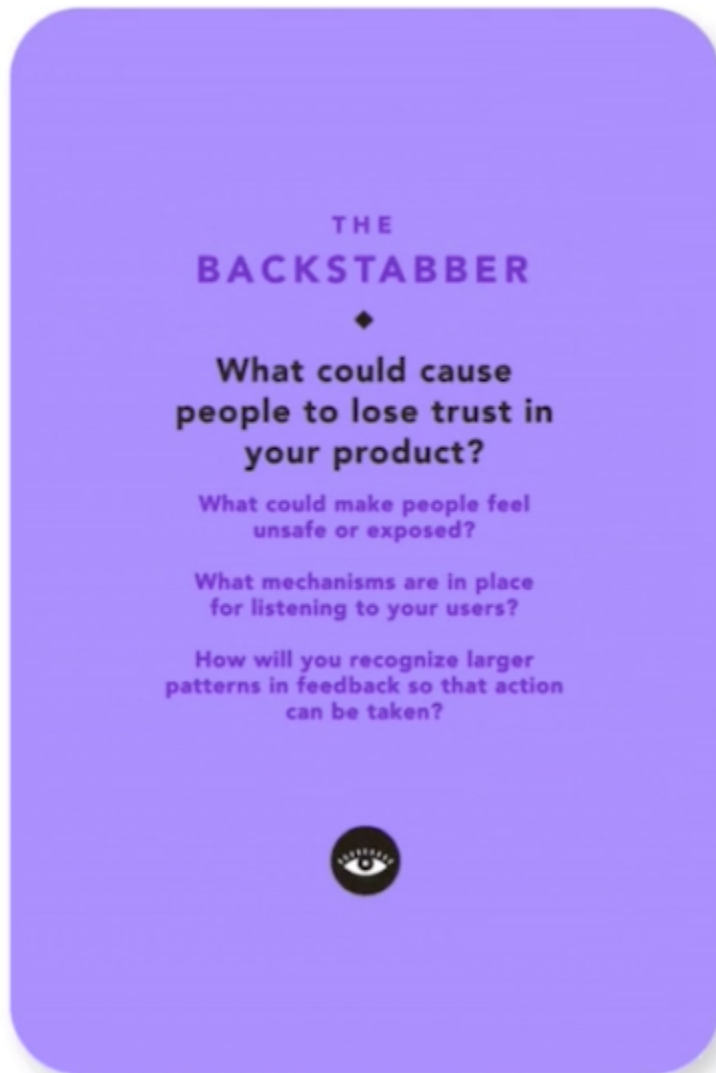
Planet negative

Opportunities

<https://cdn2.hubspot.net/hubfs/6362597/Oppaat%20EN/Planet%20Centric%20Design%20toolkit%20-%202025.11.2019.pdf>

7. Tarot Cards of Tech - discover downstream consequences

[The Tarot Cards of Tech](#) were created by strategy and design firm [Artefact Group](#) to help designers grapple with the potential downstream consequences of their creations. For example, there's "The Backstabber" that asks what would cause people to lose trust in the designed product or "The Radio Star" that asks who or what will disappear as a result of the designed product. It's a fun and yet impactful tool to help designers to zoom out and look at their product within the wider society and system.





<https://www.fastcompany.com/90171344/the-latest-way-to-avoid-a-major-design-screwup-tarot-cards>

8. Planet Centric Design Toolkit - meet the Sustainable Development Goals

Impossible, an innovation group and incubator, has created a [Planet Centric Design Toolkit](#) that's been successfully applied to various industry problems. As they [state](#):
“Planet-centric design is based on the principle that when we create something new, it should make the world a better place.”

The team at Impossible take their inspiration from the Sustainable Development Goals (SDGs) and then break them down into micro-goals that can be linked to the projects that they choose to work on.

5.

Case Studies

How to put beyond human-centered design into practice

There are examples that prove that it is possible for companies to balance human and planetary needs. Be inspired and take their lead! It's also possible to rethink current business models to make them go beyond human-centered design. Ready?

Case Study 1

Financial inclusion pays in more ways than one

With more Angolans out of the banking system than in it, [Impossible and Banco Atlantico](#) worked together to create a solution that would help citizens with saving and money management, and that would make taxation easier which could help fuel economic growth. They created a mobile banking solution (*400#) that works on feature phones. By increasing social and economic inclusion and economic transparency, this solution will help to realize SDGs 8, 9, and 10 (economic growth, responsible industry, reducing inequality).

Case Study 2

Can you hear Mother Nature's sigh of relief?

Every year [15 million kilograms](#) of headphones are discarded due to mechanical breakdowns, technological improvements, and upgrades. Dutch firm [Gerrard Street](#) thus created modular headphones that can be easily disassembled. It's a subscription-based business model, which allows these repairs and upgrades for free and simultaneously incentivizes Gerrard Street to design the most durable product they can. The consequence? The Ellen MacArthur Foundation [reports](#) that 85% of components are consequently reused and fewer raw materials need to be sourced for the creation of new headphones.

It's also helpful to consider how some of the designed products and services in the world are contributing to our problems, precisely because they do not take a beyond human-centered design approach.

Below are three more case studies to make you think about how things could be designed and done differently.

Case Study 3

The app is not innocent

Katharina Clasen, a German designer, [explains](#) how Instagram actually ends up damaging our planet: “Instagram earns money with ads. It is also a platform that (amongst others) directs their product development efforts towards enabling a user group very fittingly called ‘Influencers.’ And what those people do (and earn their money with) is influencing other users to buy stuff. Stuff they probably don’t need.”

It’s true that some Influencers promote sustainable goods or simply share recipes but as Clasen rightly says, “when these Influencers make people buy more stuff, more stuff gets produced. Therefore, things can get cheaper over time. Then even more people are able to buy even more stuff...” and so the cycle continues.

It seems that Instagram would have no business model without consumption. However, by changing into a platform where only second-hand goods can be featured, it would immediately be more planet friendly. Is this a tall order? You bet. Is this the type of decisions that need to be made if we still want to make it to 2050 on this planet? Yes.

Case Study 4

Ride with me

Ride-sharing companies like Uber and Lyft are incredibly convenient but that convenience comes with a price. Not only are these ride-sharing services responsible for [worsening the traffic in cities](#) but the more ride-shares (cars) there are, the more carbon dioxide emissions are released into the atmosphere.

If we’re serious about doing something about the climate crisis then a company like Uber or Lyft should be designing their service so that you cannot hail a ride when you’re the only passenger to be transported. By having a kind of “two-minimum” rule built in, it would take a car and its greenhouse gases off the road so that it’s truly a ride-share and not a taxi just for one.

Case Study 5

Brian Chesky, I need a place to stay!

A closer investigation of the impact of Airbnb on rental prices has delivered a worrying insight. When [Airbnb listings in a city increase, so do the rental prices](#). Some landlords who own secondary homes or apartments are removing their properties from the long-term rental market because it makes more financial sense to rent it out on Airbnb

over the short-term at a higher price. This means that the housing supply, which is already [limited in multiple cities around the globe](#), decreases even more. With fewer properties available to local residents and with the demand not changing, rental prices increase. This problem is largely mitigated when homeowners merely rent out a spare room in their residence because they're not taking a property out of the long-term rental market.

One way of counteracting this development would be to only allow rentals within homes where others are already living. Without zooming out to reflect on the impact of Airbnb on the wider system, we end up exactly in the position that we are now.

Conclusion

By going beyond human-centered design, nothing needs to get lost—businesses can *still* achieve financial success, they can *still* have a long lifespan, they can *still* be attractive to investors, they can *still* be attractive to consumers, and they can *still* have disruptive potential.

In fact, going forward, going beyond human-centered design will increasingly become the only way to achieve these goals.

We don't have an option but to design for the planet and all its inhabitants. Our survival depends on it. We need to direct our efforts to convince our company leaders and management about the urgency and tangible benefits a change towards planet centricity could bring forth. The time is right for designers within organizations to start leading on this front. The question is whether they will accept the responsibility and make the most of this opportunity.

Design thinking might be killing the planet, but beyond human-centered design could help save the world.