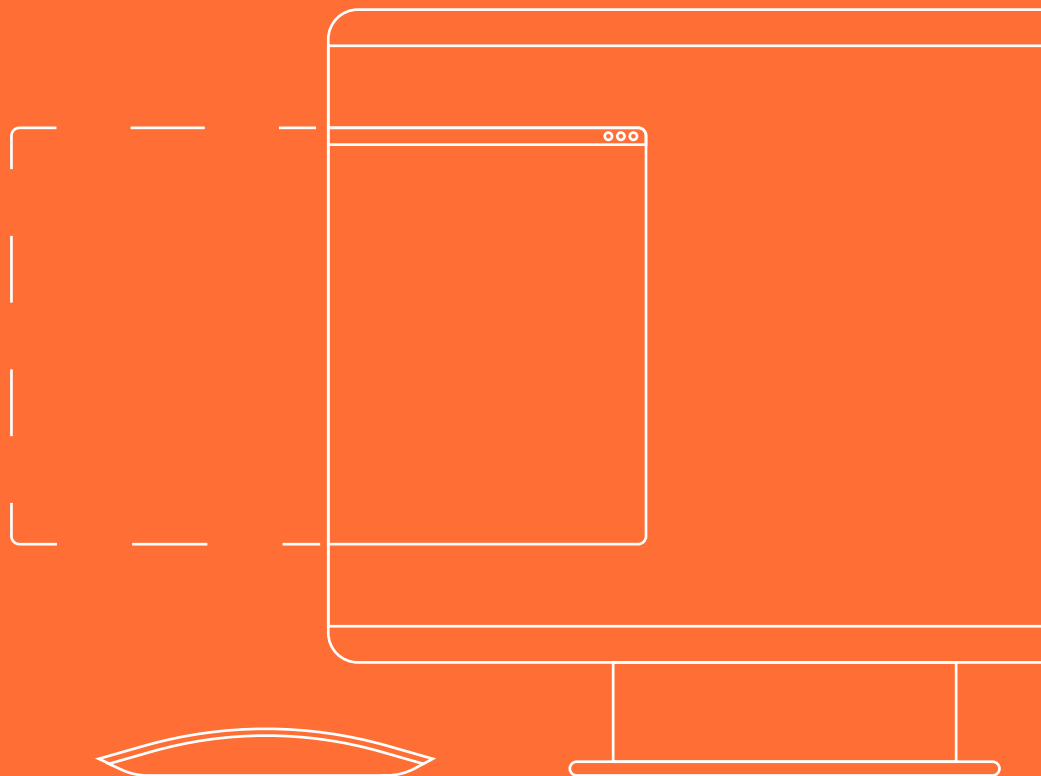


Unboxing Web3

Preparing for a paradigm shift



A white paper by The Dematerialisation Initiative

The Dematerialisation Initiative looks beyond the hype surrounding NFTs, blockchain and the Metaverse to create insight into how the web is evolving and how this will create new opportunities for dematerialisation that enable companies to transition towards less material-intensive offers gradually.

The initiative is a joint venture between Alice Labs and Makers of, in collaboration with Technium. Our initiative, which debuted in 2022, will be continued during 2023. It combines open collaboration and deep qualitative and quantitative analysis with design methods to identify dematerialisation

opportunities rooted in consumers' current and emerging needs and expectations.

This white paper is the first outcome, outlining an approach to the project based on a deep-dive with 16 leading-edge consumers in the UK at the end of 2022 (pre-ChatGPT3 release).

Web3 – What is it

Over the last year, we have seen the next iteration of the web most often described as the Metaverse, i.e., an immersive 3D virtual reality that increasingly will serve as the main domain for human interaction, essentially replacing much of the real, physical world.

This dominant portrayal of Web3 has been fuelled by the continued exponential growth in the number of active gamers around the world, the selling and buying of digital assets known as NFTs (e.g., artwork and digital fashion), and major companies' (most prominently Meta's) proclamations of huge investments in this undoubtedly exciting albeit rather vague future vision of the web.

Tellingly, however, it was recently revealed that two of the most prominent metaverse platforms, Decentraland and Sandbox, had less than 1,000 daily active users. Meta's highly touted metaverse platform Horizon World is so unpopular that Meta's staff has been pressured to use it as no one else wants to.

At the same time, we have witnessed a massive wave of interest in generative AI, with more than 1 million users of ChatGPT five days after launch at the end of November and 100 million users by January. This has led Microsoft to double down on AI and simultaneously announce major cuts in their AR and VR investments, signalling that Microsoft considers AI to be a much better bet than the Metaverse.

All this begs the question, "What kind of consumer needs is Web3 supposed to meet, and what value is it supposed to create?"

Our approach

Our research shows that the Metaverse skewed view of Web3 often appears distant to consumers. Crucially, its fairly specific perspective distracts us from the opportunities Web3 presents to improve the online user experience.

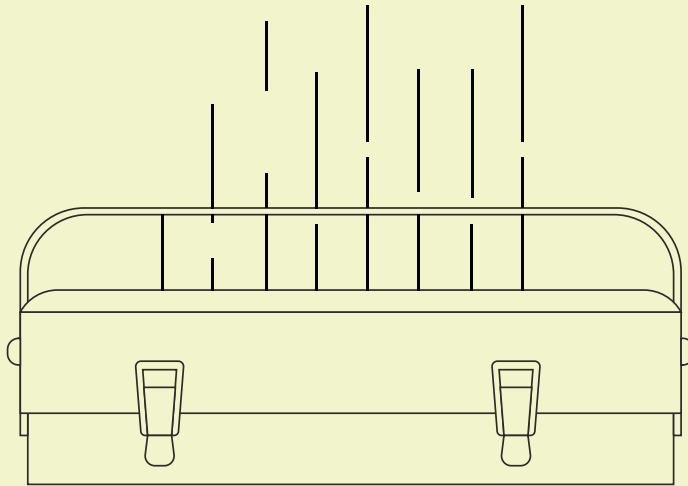
To identify these opportunities, we look at Web3 from a demand perspective and explore it as a landscape of emerging technologies that can create value for consumers in the short and mid-term.

Technology is an enabler of change, and it is essential to understand the evolution of technologies to understand the setting in which culture and human behaviour evolve. However, many technologies and elements associated with the Metaverse dominant view on Web3, and touted as revolutionary, have failed

to gather momentum and proliferate in any meaningful and impactful sense. On the other hand, while still novel and emerging, generative AI tools, such as ChatGPT, have proven to be extremely "sticky" and attractive in the eyes of the consumer.

"Sticky" technologies and innovations resonate with people's everyday needs and aspirations. To better identify these needs and aspirations, it is essential to understand how people relate to their daily lives and the role of technology therein.

Thus, we start from the principle that human behaviour and culture evolve alongside (and often a step behind) technological change. Viewed like this, we must recognise that Web3 is a continuous evolution rather than a revolution or disruption.



Web1

Web1 is often described as the "read-only" web. During this first phase of the web, the user experience was mainly about searching for information on static websites. During this time, search engines, email, and basic e-commerce emerged. However, for users to create content and shape the web, they needed to have at least some coding knowledge.

Web2

Web2 has been described as the "read-write" and "social" web. In Web2, platforms like Facebook made content creation easy. Combined with the proliferation of smartphones and apps, the Web2 user experience is about increased accessibility and interactivity. While this has allowed everyone to participate in the web, this participation is limited to a small number of platforms that control user data and ultimately decide how the web works and looks. Creating novel online experiences requires skill, knowledge and investments beyond most users, effectively excluding them from shaping the web.

Web3

It is not clear what Web3 will be like. Depending on who you ask, it may be described as a more immersive 3D version of the web, a decentralised version in which users rather than platforms control their data, or a combination of both. While immersive experiences and blockchain-enabled things like ownership of data and digital assets are likely to play a part in this future web, we believe too much emphasis has been placed on these aspects and that there is more to the story.

The limits of Web2 from a consumer point of view

So, is there an actual demand for a better new web?

In our research, we can see some of the challenges of the current online user experience that give us hints about how to create value in new ways and create something that can be perceived as a "better web".

And if so, what is that demand like, and where does it come from?

Online fluidity

Web2 lacks stability and continuity as much of the online experience is "stream-like", making it challenging to create attachment and a stable online identity.

Online distraction

Much of the current online experience is marred by distraction. Online ads, pop-up windows, and increasingly distractive content make users feel they are losing control of the experience.

Flatness of online activity

The Web2 user experience mainly focuses on sharing, viewing, and creating. These activities often lack depth, and users desire more engaging alternatives.

Fences & fragmentation

Web2 is strictly channel-based, and brands fully control their digital real estate, such as homepages, e-commerce sites or social media pages. The user experience is fragmented across these fenced environments. Users feel they get locked into platforms that compete for their attention. From a consumption and demand point of view, Web2 is built and run by brands and corporations.

High barriers to shaping the web

This fenced and fragmented web's entry level is high. Creating novel online experiences requires skill, knowledge and investments inaccessible to most users, effectively excluding them from shaping the web.

Transactional focus

In Web2, generating and maintaining customer engagement beyond transactions hasn't proven easy. Brands struggle to stand out as consumers browse through endless options presented in a superficial and overcrowded browsing-to-transaction logic where emphasis on price and promotion create constant downward pressure and ultimately brand value destruction.

As such, Web2 is built and dominated by supply. Users get what is on offer, and the average user cannot shape the web in any significant way.

With the surge of Web3-enabled tools and services, this dynamic has the potential to change. We believe this will have a significant impact on digital engagement.

Web3 and digital engagement

To a large extent, a sense of disengagement or distance is characteristic of the current online user experience. The disengaging shortcomings listed above do indeed create a need for an improved version of the web.

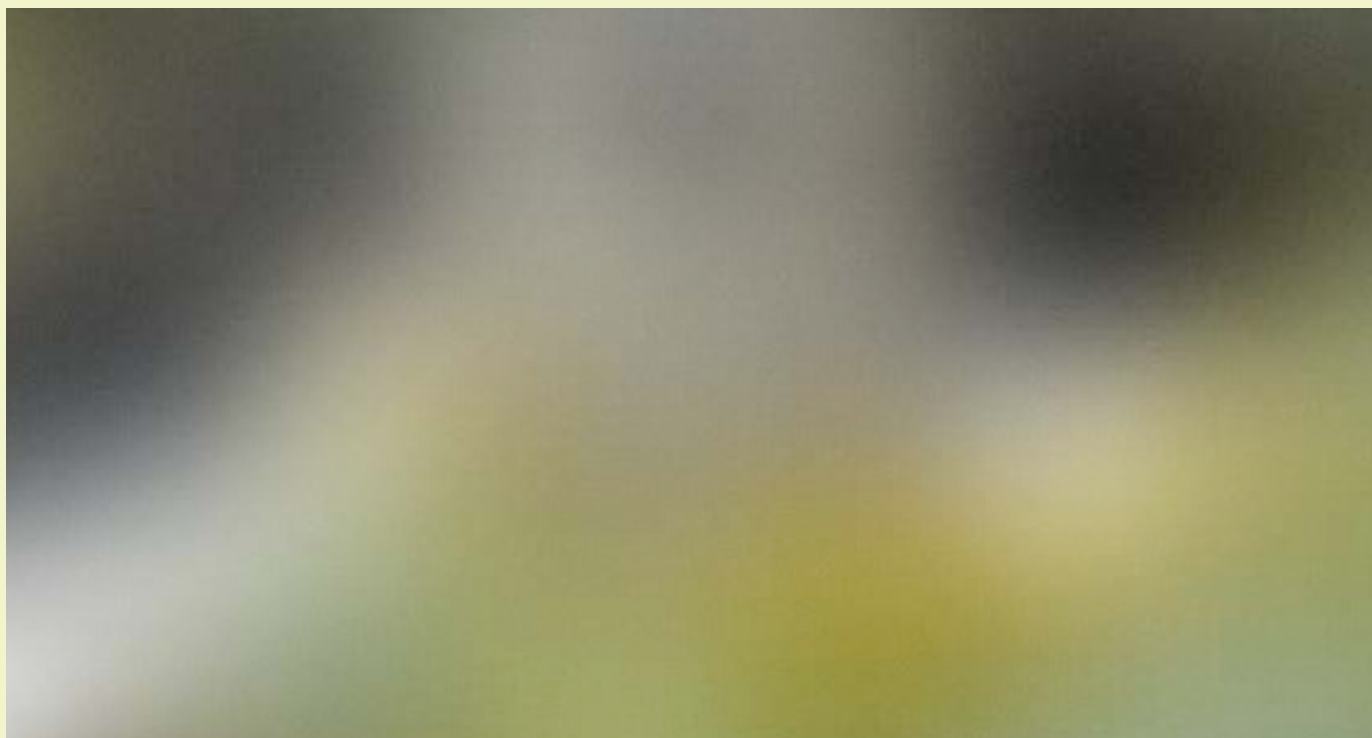
By changing the focus, we expand the scope from purely virtual and game-like to include questions about how Web3 will be present in and impact consumers' everyday lives more broadly.

To better understand how to address these shortcomings, we believe that Web3 needs to be explored from the point of view of improved digital engagement rather than focusing solely on visually immersive experiences, decentralisation, and ownership of digital assets, as represented by the dominant view.

Consequently, we do not assume that, e.g., 3D representations or ownership of digital assets have intrinsic value. Instead, value is created when new technologies enable better digital engagement that improves consumers' experiences.

To identify opportunities for value creation in Web3, we explore digital engagement on three levels:

1	Activities	Engaging people in new activities
2	Objects	Engaging people with new object relationships
3	Places	Engaging people in new places



Activities

Web2's user experience revolves around searching, sharing, creating, and viewing.

In Web3, new forms of more engaging and meaningful activities take shape.

Activities with digital flexibility

Currently, real-world activities are resource-intensive, time-demanding, need planning, and are often expensive. In Web3, real-world activities can become digital, making participation more flexible and accessible, allowing consumers to engage in more activities, regardless of time and place.

Peloton brings the gym home

Peloton fitness bikes come equipped with internet-connected touch screens. By subscribing to Peloton's online fitness classes, customers can participate in post-purchase services that recreate the gym experience in their homes, making reaching their goals more accessible and time-efficient.

Positive Grid enhances guitar practice digitally

Positive Grid's smart practice guitar amplifier brings music schools and garage bands into users' living rooms. It enables anyone to practice with and play in a band and gives users access to practically every guitar effect and sound out there, immensely expanding the possibilities for hobby guitarists.

Looking forward

There is a clear trend towards making real-world activities increasingly accessible and engaging with digital means. As Web3 technologies evolve, we will likely see more real-world activities become available in consumers' homes. Generative AI and extended reality technologies are especially promising in this context to curate activities and make them feel more personal and meaningful.

Creative engagement

In Web2, generating and maintaining customer engagement beyond transactions hasn't proven easy. Web3 technologies enable the development of incentives that are more likely to keep customers engaged in co-creative activities beyond goods purchase and services.

Nike's .SWOOSH lets customers create

Nike's.SWOOSH allows customers to participate in the design of virtual items, such as virtual sneakers. Members of the .SWOOSH community can personally create their virtual sneakers, trade them with other members, and get access to exclusive events where they can meet Nike athletes and designers.

Style DNA makes looking good easy

AI-powered personal stylist, like Style DNA, not only help consumers find clothes and combinations that fit their style, but also helps in selecting what to wear from their wardrobes at home.

Looking forward

A trend towards building stronger, longer-lasting customer relationships with Web3 tech emerges. Soon, we will see companies use AI assistants and new forms of digital ownership models to create brand engagement beyond advertising and transactions.

Focused engagement

In Web2, people spend significant time and energy searching for relevant information and navigating the vastness of content. In Web3, emerging technology, especially natural language programming (NLP) AI, will do the searching for the user based on voice or text queries, creating a more seamless and frictionless experience that enables the user to focus on their task at hand.

AI changes how we interact with information

Generative AI, such as ChatGPT, is expected to revolutionise how we search for, and engage with, information. By being able to generate answers tailored to specific needs, users can allocate their energy and attention to the subject matter rather than looking for the needle in the haystack.

Fireflies captures the essence of our meetings

Fireflies is an AI meeting assistant that uses NLP to eliminate the need for note taking during a meeting and helps users quickly find the relevant information from recordings and transcripts.

Looking forward

The proliferation of NLP and generative AI suggests that the human-computer interaction paradigm will change drastically. Soon, we will move towards more intuitive forms of interaction where we use our voice to curate our online experience to fit our preferences and aspirations perfectly.



Objects

In Web2, digital objects are not unique and physical objects are limited by their physical properties.

In Web3, distinct digital objects can arise, and physical objects can expand into the digital realm.

Building anticipation with digital representations

In Web2, consumers appreciate the convenience of getting to know products online before buying but feel that much is lacking from the online presence of physical objects. In Web3, more realistic and interactive digital representations of physical products will make shopping more engaging and informed decisions easier.

Tesla builds anticipation pre-delivery

Due to long lead times, Tesla already introduced some years ago an AR app that allows customers to park a virtual version of their not-yet-delivered EV in their driveway, effectively enabling them to start building a relationship to the product pre-delivery.

SK-II makes shopping “phygital”

SK-II’s Future X Smart Store provides customers with the convenience of online shopping with their unique “phygital” retail concept. With the help of in-store Discovery Bars, customers can explore the physical products they are interested in with digital tools that give them access to information and visualizations that online shopping has made them used to.

Looking forward

There is a trend towards finding more engaging and comprehensive ways for consumers to experience and interact with digital representations of products pre-purchase and -delivery. We can anticipate that digital representations of physical objects will become increasingly realistic, versatile, interactive, and better contextualised in immersive environments.

Digital objects generate community and distinction

In Web2, digital objects are easily sharable and accessible but rarely generate a sense of attachment. In Web3, unique digital objects enable distinction and community building.

Hennessey provides digital exclusivity

Hennessey's Café 11 is an exclusive community that mixes digital and physical experiences. Membership is tied to the ownership of a limited number of unique digital artwork by artist John P. Dessereau.

Gamers build relationships with brands

In games we can already see how consumers build relationships with brands and digital objects in much the same way as with physical objects in the real world. Companies like Balenciaga and Gucci are exploring new ways to engage younger generations by creating and selling digital fashion to players' in-game avatars.

Looking forward

Thanks to blockchain technology, exclusive communities built around unique and scarce digital objects are emerging. We can envisage how singular digital objects become symbols of belonging and distinction in the online world and how this can generate stronger brand loyalty that impacts real-world behaviour.

Digitally expanded physical objects

In Web2, most physical products remain disconnected from the online world. In Web3, most physical products will also exist digitally, enabling transparency, circularity, and contextualisation.

Prada gives their products a digital identity

Prada uses unique codes to authenticate product records, including material provenance, authenticity data, and ownership history. Customers that purchase a product receive an encrypted certificate with information about how the product was made. Customers who scan the NFC tags embedded in products will receive personalised information and purchase suggestions from Prada.

EU boosts circularity with digital product passports

The resale market is growing 11 times faster than traditional retail. With major initiatives like EU's digital product passport providing serious tailwind, most products ranging from textiles to electronics will have a digital identity that discloses information, such as when it was bought, repairs made, etc., making resale even easier.

Looking forward

In the near future, we will see most physical products becoming part of a digital ledger that records their movement, price development, repairs, etc. We believe the implications of this for our relationship to physical products will be immense as resale and circularity become an established norm. Combined with increasingly sophisticated AI, we can picture a future in which consumers no longer have to look for products, as AI helps products with a digital identity find consumers instead.



Places

A "sense of place" is largely lacking from Web2. While more immersive online experiences are being created, we can simultaneously see Web3

reach further into physical places, which is something the Metaverse paradigm has made us overlook.

Real-world places becoming digital

In Web2, most real-world places are outside of the digital realm. But, as the internet will be embedded into more and more physical things in Web3, our experience of real-world places will become part of our online experience.

Alexa disappears

In a recent interview, Rohit Prasad, senior VP and Head Scientist for Alexa at Amazon, stated that the next phase in Alexa's evolution will be about disappearing. Devices that function as interfaces will in other words be embedded into our physical environment, making the web increasingly omnipresent. This development is already ongoing as seen in smart homes and automated retail experiences, such as Amazon Go stores.

Dent Reality makes grocery shopping convenient

Teamed up with Marks & Spencer, Dent Reality has developed an AR app that helps customers easily navigate in-store spaces. Customers can enter any product into the app, which provides directions via their camera view. Customers can even enter whole grocery lists to get the quickest route to everything they need. The latest feature added creates customers' grocery lists based on Mark & Spencer's recipes.

Looking forward

Although it still makes perfect sense to distinguish between an online and offline world, this distinction will become increasingly blurred as we move forward. In the future, our smartphones will have many uses that directly enhance our experience of physical spaces. Eventually, these interfaces are likely to melt into our physical environment as we get used to using our voice to interact with the web, with AI personalising the experience.

Immersive virtual places with a purpose

In Web2, immersive experiences of place are largely restricted to games. In Web3, immersive virtual places will be created to enhance core online experiences by, e.g., giving products context that make them more relatable or creating settings in which social activities make sense.

Strategir sets the scene

Companies like Strategir create immersive virtual environments that connect consumers to a situation in which the environment plays a role in product presentation and evaluation, such as trying a beer at a virtual café terrace rather than in a sterile environment in which the product seems out of place.

Sky Worlds brings the stadium home

Sky Worlds' virtual reality app gives users with VR headsets access to new immersive ways to watch sports together with family and friends without having to be in the same physical location.

Looking forward

As immersive technologies increase, we will see the inevitable replacement of the current practice of browsing catalogue-like websites with more meaningful product-enhancing immersive context creation. Rather than the virtual recreation of physical stores currently being explored, we can picture the attraction of trying a product in an environment where it makes sense and the customer probably dreams of using it.

The potential for dematerialisation

Our interest in Web3 emerged from its potential to reduce the use of material resources, for example through the fashion industry moving towards digital fashion. Can Web3 help brands create more value for their customers while simultaneously decreasing the use of virgin materials?

Can consumers' aspirations for new physical things be substituted by an aspiration for new digital things? Can Web3 make consumers' use of physical things less wasteful?

There is no straightforward short to midterm answer to these questions, but our research highlights four areas that hold potential for dematerialisation and are worth further exploration:

1 Asymmetric substitution

Opportunities for more digital and less physical consumption

There is no evidence that consumers compare like for like between digital and physical, such as buying digital sneakers instead of real ones or wearing less clothing offline and more in digital environments. It is, however, clear that consumers, whose life and identity increasingly unfold in the digital domain, will also consume more there.

During our research, we encountered people who had formed practical and moderate approaches to consumption in the physical realm and had already moved some of their self-expression-linked consumption online instead.

2 Digital value enhancement & flexibility

Opportunities for more value with fewer resources

There is clear evidence that people desire to extract more value from their investments in things and materials, and digital technology can play a significant role in achieving this. In the future, people may possess material objects with added digital layers that offer highly personalised ways to alter and expand the functionality and purpose of these objects.

These digital layers can make people more aware of what they own and how to make better use of their

possessions, addressing consumers' frustration with companies solely focused on selling more products rather than making an effort to extend the life cycle of existing ones.

Post-purchase services will also become an increasingly important revenue stream for companies as consumers expect new forms of long-term digital engagement beyond the transaction.

3 Better use of real-world products & materials

Opportunities for extended life cycles of physical materials across users

There are also opportunities to drive dematerialisation on a more systemic level with more flexible models for temporary ownership, partial ownership and new forms of flexible sharing economy models.

During our research, we have seen serious interest in second-hand and opportunities to facilitate the movement of goods peer-to-peer digitally. We can picture people keeping online catalogues of their possessions, enabling them to flexibly decide whether they are interested in continued ownership, sharing or perhaps selling a specific object.

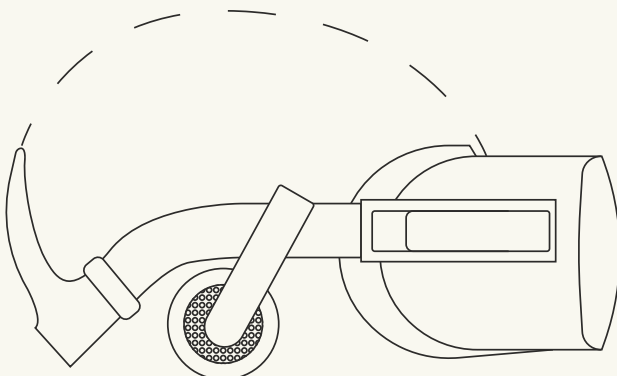
4 Lighter and faster value creation

Opportunities for more effective and less resource-intensive productive processes

Opportunities to increase and improve the output of creative processes with less input are rapidly emerging. Using new tools, such as Midjourney or ChatGPT, the creation that used to require weeks of planning, pre- and post-production, and so on, can now be done using simple prompts created by anyone with a few hours on their hands. The implications these tools have for the creative process are vast.

Companies will be able to innovate and create exponentially faster than before. We can expect traditional trades, such as photography, graphic design, and video production, to undergo significant disruption. As the barriers to innovation and creation are lowered, the number of new services and innovations available to the consumer will increase exponentially. And as design and content quality improves and becomes less costly, brands must focus more on the user experience.

Moreover, if anyone with access to a computer can produce basically any image they want, with a quality suitable for any media, the ownership of any intellectual property will become a difficult challenge. This shifts the power to the market that no longer will have to make do with "what is on offer".





Brand and design challenge

Most brands are aware that they need to adapt to Web3. They recognise that there is value in a new web that provides improved opportunities to engage consumers beyond the transactional relationships characteristic of current digital engagement.

The biggest design challenge is bringing Web3 and its potential closer to consumers' reality as something relatable and genuinely value-creating. Our research shows that while most consumers experience many shortcomings and concerns in the current online experience, they are not necessarily ready for, or even interested in, an immersive 3D virtual reality that emulates and replaces much of the real, physical world.

Indeed, we can see that while some core technologies and experiences associated with the Metaverse dominant view on Web3 are struggling to establish themselves as part of the future online experience, other technologies, most prominently generative AI, have recently shown themselves to have the pull and broad application that may very well trigger a major shift in how the web works and how we interact with it.

For any brand to turn this ongoing shift to its advantage, it will be imperative to approach Web3 more openly and broadly, considering the customer's needs and aspirations beyond the transactional relationship.

Checklist to be Web3 ready – The 5 things all brands need to do

1

Look beyond the hype and stay focused on real consumer value.

It is easy to get excited about novel technologies and innovations, but the focus needs to be on what real value they can create for consumers.

2

See emergent technologies as enablers.

Technology is an enabler of change, and it is essential to understand the evolution of technologies to understand the setting in which culture and human behaviour evolve.

3

Understand the shortcomings in your current forms of digital engagement.

By identifying the shortcomings in how you engage with your customers online, you can make your brand stand out and improve customer relations.

4

Build on existing experiences.

New technologies might be disruptive, but for consumers they should feel like natural and better extensions of the current experience.

5

Explore the opportunities for improved engagement on three levels and identify the technologies that can leverage these:

1. Activities: how can your customers do more together with your brand?
2. Product: how can your customers have more meaningful relationships with your product?
3. Place: how can you be present in new ways in the places where your customer is likely to be?

A joint venture between
Alice Labs and Makers Of

Dematerialisation



Makers of _