BREAKING FREE

Pathways to a fair technological future

FORBRUKERRÅDET

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Executive summary

Digital products and services are steadily becoming worse. Software becomes increasingly difficult and frustrating to use, websites and apps are littered with ads and spam content, and useful features are removed, degraded, or made subscription-only. This is part of a process called enshittification.

Enshittification happens in stages: First a company attracts users by providing a valuable service, often seemingly for free or at an artificially low price. The company then exploits those users to draw in business customers, and finally abuses its business customers and claws back all the value for itself and its shareholders.

Enshittification is the result of a dysfunctional market, where companies have been able to get away with mistreating and exploiting consumers. Consumers are trapped in digital services, potential competitors are shut out, and policymakers and regulators are unable or reluctant to clamp down on anticompetitive, illegal and otherwise abusive behavior. In practice, a handful of tech companies have become so powerful that they do not have reason to fear any consequences.

Although enshittification has spread to everything from social media platforms to connected fridges, it is not a natural law. Much of what is needed to prevent enshittification is already there: the laws need enforcing though. The path we are on can be challenged and reversed – we can have a better digital world. This requires rebalancing the power between consumers, big tech companies and alternative service providers. It means giving consumers more and better choice over what happens when they are using these platforms.

The fight to disenshittify the internet is also a fight for innovation: Big Tech is able to enshittify their services after they have become dominant and restricted competition. By pruning back the excesses of big tech, alternative services can get the nourishment they need to grow and flourish. However, this requires active policy choices and vigorous enforcement of existing laws.

To achieve a better digital world, where technology works for consumers rather than against them, several steps must be taken:

1. Rebalance power between service providers and consumers. Consumers should be allowed to control their digital experiences and decide how they want to use products that they own. It should be possible and practical to switch to alternative service providers, or tweak services they already use to suit their needs and preferences.

2. End dependence on big tech. To lay the groundwork for innovative products and services and pave the way for alternatives to big tech, competition in digital markets must be restored. Technology based on principles such as openness, interoperability and portability must be advanced through strategic investments. For example, the public sector should leverage its power as a major procurer to support alternatives to big tech.

3. Double down on the enforcement of existing laws. Far from hindering innovation, regulation and laws provide crucial guardrails to guide innovation and ensure a level playing field. Weak enforcement allows big tech to continue its damaging practices at the cost of freedom of choice, service quality, and innovation. To remedy this, enforcement must be strong and vigorous.

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1

THE INTERNET WE WANT

1. The internet we want

This report is about imagining a better digital world.

Imagine if you could leave the social media or messaging services you use, if you didn't like them anymore. You could move to a service that better suits your needs and aligns with your interests and values, without losing the ability to stay in touch with your friends and colleagues who remain on the other service.

Imagine if you could purchase a connected product without first checking (and then double-checking) whether it will interact properly with the devices you already have at home – it simply works. The device continues to work as you expected it to when you bought it, so you can continue to use it for as long you want.

Imagine if you could choose to install software that gives you more control over your digital environment, or – if you do not want to spend time fiddling with software – that the default settings are already set to protect your rights. Platforms respect your time and autonomy, rather than constantly nudging you to share more information, buy more things, or watch more extreme content.

Imagine online spaces where you can easily use services that cater to your specific needs, with app stores, services, and platforms specifically designed for groups such as children or elderly people.

Imagine if you could always choose the cheapest or best service, because companies could not force you to use the services they prefer, at the prices they prefer, through legal or technical means.

Imagine if tech companies were worried that abusing their users might have serious consequences, because they had to receive and listen to consumer feedback and complaints. Dissatisfied consumers could easily choose to abandon the service, and if companies violated the laws, they were held accountable within an acceptable timeframe and with dissuasive sanctions, so that breaking the law was not a profitable business model.

Imagine if companies could freely innovate to create better services for you, instead of innovating to make you more profitable for them.

While these things may seem like impossible fantasies, they are not out of reach. The reason why this is not the world we live in is because companies and policymakers have chosen otherwise. It is not too late to change course.

1.1. The situation today

The internet that we used to know is dying. In its place are a few enormous corporations, colloquially known as "Big Tech", that use their platforms to drain our time, money and data.

They operate on a global scale and keep reinforcing their dominant positions across a vast range of digital services – from social media and search engines to cloud infrastructure and generative artificial intelligence. Products and services are pushed to the market with little regard for safety or wellbeing, in the name of "innovation", and companies employ illegal and anti-competitive practices to steer digital markets in their preferred direction. Meanwhile, the same corporations make tremendous efforts to influence policy and legislation across the world, fighting against regulation meant to keep consumers safe and the companies accountable.

Some consumers are more vulnerable to big tech companies' practices than others. For example, children and the elderly may be particularly vulnerable to being exploited and conned online. The same goes for anyone in a particularly volatile life situation, such as people who are in debt or who are expecting a child. However, everyone can be vulnerable in particular contexts, for example when we access digital services on the small screens of our phones while stressed on the way to an appointment.

The trends that are killing the open web today have tangible negative effects on all of us. While we go about our everyday lives, our devices require us to continually put up a fight to have meaningful online experiences. The examples are nearly endless. Customer service has been replaced by a chatbot that is used to prevent you from reaching a human representative, to make it more difficult for you to exercise your rights to information and to complain. Almost every app is full of addictive mechanisms that are constantly "optimised" to keep you from taking a break or logging out. Companies can degrade the functionality of your car or effectively destroy your connected washing machine with a software update. If a company decides that you have violated some obscure terms of service you "agreed" to when starting an account, you could lose access to all the content you paid for, often without meaningful redress.

In other words, you are not alone if you feel that the digital experience has worsened. The good news is that this is not an irreversible course. It is still possible to reverse the degradation of digital services and create a better digital world.

> *"We love our phones, but we do not trust them. And love without trust is the definition of an abusive relationship."*[1]
>
> *Maria Farrell*

1.2. About the authors

The Norwegian Consumer Council is a publicly funded, independent consumer organisation. We receive no funding from private companies.

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2

WHAT IS ENSHITTIFICATION?

2. What is enshittification?

Large parts of our online lives are dominated by big tech companies. These companies have embedded themselves into almost every facet of the digital environment, from the devices we use to access the internet, through the platforms we use to communicate with family and friends, to marketplaces where we buy products and services.

Since the early days of the consumer-facing internet, companies have increasingly sought to control how we spend our time, attention and money. As these companies have become some of the most powerful entities in the world, so many of the most used digital products and services are becoming markedly worse. From loss of functionality to the pivot to AI-generated slop and spam, service providers are degrading their offerings to a noticeable degree.

Companies are providing worse services at a higher price.

In a traditional market, the reduction of quality in a product or service might be tempered by the fear of consumer reprisal, for example consumers moving to alternative providers, leading to a loss of profits. In the digital economy, however, such market dynamics are largely absent. This is caused by many factors, such as lock-in effects, high switching costs, lack of viable alternatives and because the degradation is often gradual and imperceptible. Put simply, companies are currently getting away with providing worse services, often at a higher price, through a process generally known as *enshittification*.[2]

Enshittification is a deliberate process, meant to maximise profits for the service provider and its shareholders at the expense of everyone else.[3] While the most prominent examples of enshittification concern large online platforms, we will show that enshittification practices have spread to a variety of digital services and internet-connected devices.

Some cases of enshittification may be small and seemingly insignificant, such as introducing optional micropayments to a previously free service. Others may have major consequences, such as completely transforming products and services people rely on. In most cases, however, enshittification is a cumulative process, where many apparently small changes amount to significant degradation of a product or service.

2.1. The stages of enshittification

Enshittification is most pronounced on large online platforms, where the platform facilitates interactions between consumers and businesses.[4] Enshittification usually happens as a step-by-step process over the lifecycle of a service or product. This may vary somewhat, but usually follows the following trajectory:

RENT IS ALWAYS DUE

Rather than competing by creating innovative products and services, big tech companies are increasingly acting as rent seekers.[5] This means that they can levy rents from smaller companies that depend on the infrastructure they own and control. The costs often filter down to consumers. Big tech companies can also outcompete and raise the barrier of entry for possible competitors by using their platforms to amass large quantities of data from both consumers using their services and other companies that rely on their infrastructure.

If a challenger still manages to enter the market, big tech can use their resources to either copy its products or acquire the company. Finally, through the intense lobbying of policymakers, big tech can ensure that their rent-seeking is not significantly challenged or dismantled by policy or regulation.

2.1.1. First stage: Draw in consumers

From time to time, a truly useful and innovative digital service or product becomes popular amongst consumers. In the case of digital services, these will likely be offered at artificially low prices, which can undercut competitors, and in any case seldomly with any monetary cost to the consumer. Providers may initially lose money per user, which is a deliberate strategy to grow the service's userbase in the short term with the goal of long-term profit once it has enough users. When a service that people want is offered at "zero" or an otherwise acceptable price, consumers flock to it.

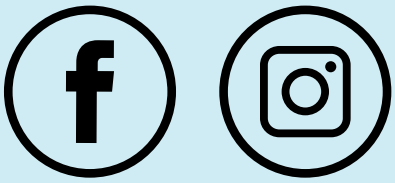
For example, a new social media platform could offer a genuinely novel way to connect with friends and family, strangers with shared interests, content creators, etc. Using the platform may be free or come with a subscription fee, without overwhelming users with intrusive advertising and promoted content, and without exploiting their personal data.

ENTER THE METAWORSE

Facebook initially grew by offering a useful social media service to connect with friends and family online. Since becoming an incumbent in the social media market, however, Meta has gradually shifted its algorithms away from showing content from friends and family, to prioritise promoted content and advertising. The Facebook feed now includes forced advertisement breaks,[6] vast amounts of AI slop,[7] and various other content from third-party accounts. Recently, Meta announced that it will also require users to pay a monthly fee to share more than two links on Facebook.[8]

It has been widely documented that the enshittification of Meta's services is a deliberate effort to increase profits.[9] For example, internal documents from Meta show that the company estimates that about 10% of its revenue comes from ads for scams and banned goods, at the expense of serious advertisers and consumer welfare – meaning that Meta profits from scams.[10]

Meta's enshittification also extends to significantly degrading the privacy of its users.[11] Across its platforms, Meta has ramped up its collection and use of personal data for various purposes[12] On Facebook and Instagram, the company has introduced a so-called pay-or-ok-model, where users have to pay the platform if they do not want their personal data to be used for advertising.[13]



As the service grows in popularity, consumers become *locked* in, making it difficult to leave. This can happen in various ways, for example organically ("I want to stay where my friends are"), or through technical and/or legal barriers to switching ("The platform does not let me bring my content with me if I leave").

A platform that has locked in its users is primed to begin the process of enshittification.

2.1.2. Second stage: Abuse consumers to the advantage of business customers

After users have been locked in, the service provider can start changing the consumer-facing part of its platform to provide a more attractive service to its business customers (typically sellers and advertisers). This may include introducing or increasing the amounts of ads at a reasonable price to advertisers, removing features that allow the consumer to control their experience, tweaking algorithms to prioritise sponsored content and products, etc. Such changes may annoy users but will be attractive to business users that want to reach potential customers.

At this stage, the service provider will have such a tight grip on the consumer due to the high switching costs that the value proposition to business customers is excellent: "Use our platform to access a vast number of potential or existing customers that will stay put no matter what!". Consequently, business customers become locked in due to the sheer size of the platform: "We can't afford to not be where all our potential customers are!". The increase in business users may also work to further draw consumers in due to the business users' perceived added value ("I need to be on this platform, that is where all the sellers are!").

DROP IT LIKE IT'S HOT

After having attracted a great number of users with the promise of personalised content recommendations, TikTok has shifted its attention to the benefit of business users. In a bid to attract influencers, brands and other external partners, TikTok employs a "heating tool", which guarantees videos a certain number of views.[14] When TikTok prioritises content for its business users, the content that consumers are most interested is simultaneously deprioritised, effectively degrading the recommender system to favor those willing to pay for wider reach. This also has the effect of showing aspiring content creators that anything has the potential to go viral, while hiding that TikTok is actually artificially boosting content.

Sometimes, service providers make changes purely to maximize profits for itself, at the expense of the locked in consumers. This is the most common form of enshittification of connected devices and standalone services, and can happen for example when the company begins to sell or spread personal data, removing privacy settings, or to gate previously free functionality behind paywalls – even if the consumer already paid for the product or service. In the pursuit of ever-increasing profits, companies may even deplete core functionalities that consumers rely on, which researchers argue could result in cognitive harm to consumers.[16]

2.1.3. Third and final stage: Abuse business customers to the advantage of the platform provider and its shareholders

Once business customers have been locked in, the platform can start squeezing them as well. For example, the platform can raise the price of placing ads[17] or start charging businesses money to reach audiences that they previously reached organically, for instance demanding a fee to appear in the feed of people who are already following their page.[18]

NOBODY'S BUSINESS BUT OURS

Amazon has been accused of leveraging its marketplace platform at the expense of third-party sellers: first by creating knock-off versions of innovative products on its own platform, and second by boosting the knockoffs to out-compete the original products.[19] Since Amazon controls the marketplace and has privileged access to data from third-party sellers, the terms of competition on its platforms are heavily slanted in its favor.[20]

In the end, the platform has made both consumers and business customers dependent on it to the degree that they have no other choice than to stay, even as the service becomes worse to use, removes functionality, and raises prices – ultimately to hike the profits of the platform provider. First movers leaving the platform have too much to lose, whether they are consumers or business customers.

The value of the service has thus been moved away from users and turned into profit for the platform and its shareholders: it has become enshittified.

BRAND DISLOYALTY

Advertisers are seeing a reduced impact from the money they spend with Meta's services.[21] However, due to the sheer size of platforms such as Facebook and Instagram, many businesses and organisations see no other choice than to continue using the platforms for advertising. Government agencies are similarly warning the public against trusting information found on Meta's platforms, while continuing to use them as platforms for governmental information.[22]

Google uses other tactics to increase its revenues at the cost of its business customers. For example, it allows companies to purchase ad space on search keywords, meaning that company Y can pay to display its ads above actual search results when consumers search for company Z. To "reclaim" its keywords, company Z can outbid company Y to place its own ads instead – essentially paying Google for the privilege to appear on top of organic searches for its own brand.[23]

THE STAGES OF ENSHITTIFICATION

1 Draw in consumers by offering a useful service at an artificially low price

2 Abuse consumers to the advantage of business customers

3 Abuse consumers and business customers to the advantage of the platform provider and its shareholders

3

HOW DOES ENSHITTIFICATION HAPPEN?

3. How does enshittification happen?

> *"When you have companies that are not disciplined by competition, oftentimes they can get away with abusing their customers; firms can become too big to care."* [24]
>
> *Lina Khan*

Enshittification happens when power is unevenly distributed between corporations, smaller companies, and consumers. Today, digital markets are heavily concentrated in the hands of a few large companies. According to UN Trade and Development, this "creates a cycle of growth that makes it hard for smaller rivals or new players to compete and gain traction. When there is less competition, consumers are likely to face higher prices, lower quality and weakened privacy protection".[25]

SEARCH AND DESTROY

Unsealed court documents have demonstrated that Google has deliberately degraded its search engine.[26] By making it difficult to complete searches, users spend more time on Google Search, providing more opportunities for Google to show ads, thereby increasing its revenue. In e-mails from 2019, Google executives discussed the lengths to which they would go to increase revenue.[27] A year later, in 2020, Google conducted a study showing that they could degrade their search product without a markedly (negative) impact on their search revenue.[28] Since then, Google Search has steadily become worse.

Google Search has also been rewarding low-quality content and spam. Google's proprietary search ranking algorithm has led to a whole industry built around search engine optimisation (SEO), which is an attempt to game the algorithm to be prioritised in search results.[29] Spammers, spreaders of disinformation, and others that successfully engage in SEO spam can draw in unsuspecting users, often in order to show ads. Generative AI has further boosted the SEO industry.

The power asymmetry between consumers and digital service providers results in a situation where consumers are often beholden to using digital products and services in ways pre-approved by the provider, while the provider can tweak the product or service to serve its own purposes. This lopsided dynamic is enabled by several factors, many of which are enabled or reinforced by the market concentration in digital markets.

While enshittification happens as the result of deliberate choices made by individuals within companies, the developers and other employees at these companies often have little leverage to resist the push for profit maximization. Ultimately, the choice to enshittify is made to profit shareholders and can negatively affect workers as well as consumers.[30]

INSERT COIN TO CONTINUE

Mobile freemium games attract a large number of players due to addictive gameplay loops and being free to download and play. Over time, many such games introduce forced advertisement breaks, in-game rewards for watching ads, and extended waiting times that frustrate users and that can be skipped by paying for virtual currencies.[31] Similar techniques have also spread to many different types of apps outside of the video games industry.

3.1. You do not own your digital products and services

As seen in the previous chapter, throughout the process of enshittification companies gradually shift their efforts from providing updates that create a better service for the user toward updates that create a more profitable user for the company. This is possible because digital products and services can be altered remotely after the point of sale, as the service provider or product manufacturer releases updates/patches, change functionality, update terms of use, etc. While such changes can be beneficial to the consumer, for example by keeping the software secure or by improving certain features, they also allow the service-provider to enshittify the service and extract more value from the consumer.

Efforts shift from providing updates that create a better service for the user to updates that create a more profitable user.

NEW OWNERSHIP, NEW RULES

After the microblogging service Twitter was acquired by Elon Musk, there was a flurry of sweeping changes to the platform, which was renamed X. It has been widely covered how X overhauled its recommendation algorithms, content moderation standards and verification systems after the rebranding[32] Many users noticed that their social feed would be filled with toxic and violent content, and posts tfrom the platform's owner Elon Musk would be pushed into users' feeds regardless of whether they followed him. The platform also began training its generative AI "Grok" on user content, leveraging data from X to build the company xAI (which later merged with X) and to gain a competitive advantage.[33] In December 2025, X allegedly removed safeguards from Grok, allowing users to generate sexual abuse material on the platform.[34]

After parts of TikTok was sold to various U.S. investors in the beginning of 2026, users were quick to notice changes to the app. This included collecting more granular location data,[35] technical glitches, and alleged changes in content moderation practices.[36]

In an analogue setting, one can usually distinguish between a service, which may be adapted and tailored to the buyer, and a product, which is static. In the digital environment, this distinction becomes blurred, as products become integrated with digital services (such as connected products), and digital software that was once a one-time purchase is turned into recurring subscriptions ("software as a service").

STREAMING PILE

Subscription streaming services have grown popular among consumers, due to the ease of access to a range of movies and films for an acceptable subscription premium. After growing its user base, streaming services such as Amazon Prime and HBO Max have gradually started to introduce advertising into its paid (and low range) subscription premiums. Many streaming services have also begun sharing viewers' personal data with third parties.[37]

In December 2025, the video streaming service Netflix quietly removed the functionality to cast video from its app to most TVs. While the company claimed that this was done to "improve the customer experience",[38] others allege that the change was made to restrict what Netflix deems as illegitimate use of the service - such as a paying subscriber casting Netflix to a TV owned by a non-subscriber.[39] Similarly, multiple streaming services have cracked down on password sharing, which also degrades the experience of paying customers that use the service on several devices.[40]

Non-digital products are yours to own and control and cannot be altered by the manufacturer after the point of sale unless explicitly permitted or requested by the consumer. For example, a furniture company cannot send employees into your home to repaint your dining table or remove one of the table's legs. Meanwhile, the seller of a piece of digital content, such as an e-book or video game, can change or remove the content at any time, whether the user wants the change or not.[41]

A furniture company cannot send employees into your home to repaint your dining table.

HELL ON WHEELS

Manufacturers of connected cars are in a strong position to enshittify, simply because cars are high-cost purchases. When consumers buy a new car, they keep them for 8.4 years on average before replacing them.[42] The high price of cars creates high switching costs and consequently locks consumers in.

Car manufacturers are increasingly moving certain features behind monthly subscription paywalls, such as unlocking full engine power,[43] seat heating,[44] and key fob functionality.[45] In all these cases, the car is sold with all the necessary components to use the feature, but the functionality is placed behind a digital lock that the consumer must pay to remove.

The ability to alter products after the time of sale has also been abused by car companies. Tesla has been accused of using algorithms to manipulate and misrepresent mileage traveled by Tesla cars to void consumer warranties early.[46] The company also reduced the charging speed of its cars by up to 30%, allegedly for security purposes. [47] Other car manufacturers have decided to cut off software support for older models, taking away access to connected services that was part of the car upon purchase.[48]

However, enshittifiers are not satisfied with just the ability to change digital products and services at their own discretion – they also restrict anyone else from altering them. Such restrictions make the product or service less resilient to enshittification. For example, if the service provider adds an unwanted feature the consumer (or company working on behalf of the consumer) could simply remove it. In practice, this means that service providers can introduce new features (and bar consumers from removing them) or remove features (and bar consumers from re-adding them).

CUSTOMER DISSERVICE

Many companies – including some of the most profitable companies in the world - have abandoned any pretense of providing customer service, thereby denying consumers the possibility to receive information and support when a product or service stops working as promised. Human customer support is replaced with chatbots or predefined feedback forms designed to make consumers give up, while any point of human contact is often hidden away or nonexistent. This means that when a device breaks down, an account is suspended, or a service provider makes sweeping changes, consumers are often left on their own.

For example, consumers who experience being banned or locked out of their social media accounts, often do not receive a useful explanation or the opportunity to appeal the decision even if they have paid subscriptions.[49] When this happens, people lose an important contact channel for friends and family, access to information and public discussion, and years of user-generated content such as photos.

3.2. You can never leave...

In a functional, competitive market, consumers would simply leave services that are enshittified and move to a competitor that chooses to respect its users. Competition should thus keep the urge to enshittify in check because the service provider would have to calculate whether the possible profits to be gained from enshittification outweighs the potential loss of users.[50]

To sidestep this dilemma and keep users trapped, companies leverage switching costs – the time, effort or money required to move to a competitor. High switching costs lead to lock-in effects, which come in many shapes and forms and can be social, technical or legal. The most successful enshittifiers even leverage anticompetitive practices.

3.2.1. Network effects and the collective action problem

Some services are only as good as the number and quality of its users.

Online platforms can capitalise on making users dependent, not just through integrating addictive features, but also by making themselves indispensable through *network effects*. The network effect means that the usefulness of a service or product increases with every new user, often because those users provide the content, interpersonal availability and other forms of value that appeal to other potential users. In short,

social media platforms, messaging apps, money transfer services, and other services that rely on user interaction or user-generated content are only as good as the number and quality of its users.[50]

For example, if a social media platform is not used by your friends or other people or organisations you find interesting, chances are that you will not use it either. The same goes for any platform that relies on business user content, such as marketplace services ("Why would I use marketplace x, when no one is selling anything on the service?", "Why would I offer my products on a platform that has no customers?").

LOCKED IN WITH ALL YOUR FRIENDS

Due to the network effect, many people feel that they have no choice but to use Facebook, for example to keep in touch with relatives, follow neighborhood groups or events, etc. At the same time, Meta does not allow interoperability with competing services,[51] meaning that anyone who wants to keep in touch with friends and family on Meta's platforms needs to stay put. Meta has also actively bought up competitors, such as WhatsApp and Instagram, leaving consumers without viable alternatives to its services.

Like other social media platforms, Snapchat exploits network effects to enshittify its service. For young people, network effects can be particularly insidious because they are more vulnerable to peer pressure than other age groups. In Norway, for example, more than 90% of teenagers use Snapchat on a daily basis. In practice, Norwegian teenagers have to use it if they want to be included in friend group chats etc.

To migrate to an alternative messaging app, the user must convince the rest of her social group to move.

The network effect leads to what is called a *collective action problem*. A user who is unhappy with the enshittification of a popular messaging app cannot simply move to an alternative service, since the lack of users would make the alternative service less valuable or even useless. To migrate to an alternative messaging app, for example, the user must convince the rest of her social group to move as well. For most people, this makes the switching cost unreasonably high, and they choose to stay on the original service even as it becomes enshittified.

EVERYONE COMPARES 2 U

Dating apps leverage network effects and users' fear of missing out. For many years such services have successfully marketed themselves as key intermediaries between individuals and their potential love matches.[53] The fear of missing out on love means that users may stay on one or even several dating apps at the same time, even as they enshittify.

The fear of missing out may be further intensified because dating apps have fundamentally changed the analogue dating scene. Even if users want to stop using the apps,[54] dating has become formalised through the use of apps, and analogue dating is a lost (or at least temporarily forgotten) skill.[55]

In what may be an attempt to counteract the enshittification of dating apps, some consumers are finding alternatives through other non-dating social apps, such as Strava.[56] There are also increasingly calls for more analogue alternatives to dating.[57]

3.2.2. Increasing the switching costs

Switching costs increase when users have already spent time, effort, and/or money on a service or product due to *the sunk cost fallacy*. The sunk cost fallacy is a cognitive bias towards continuing to use or invest in something that we have already invested in, despite evidence that the net return of the investment is negative.

FADING MEMORIES

In October 2025, Snapchat announced that it would begin charging a subscription fee for storing "memories", a popular function that used to be free of charge. While some memories could still be stored for free, users expressed frustration that many years' worth of content could be paywalled or deleted if they did not sign up for the subscription.[58]

For example, you are unlikely to throw away an enshittified device that you spent money on to buy a different product, especially if the product is something expensive such as a car or a smart home system. Similarly, a consumer who has spent a lot of time building a profile on a service, creating content (e.g. a playlist), or having an algorithm tuned to their interests, may be hesitant to move to an alternative service, even if the alternative service is better suited to the consumer's needs.

HOME INVASION

After the smart home manufacturer Futurehome went bankrupt, the new owners of the company retroactively introduced a paid subscription for core smart-home functionality that was previously accessible for free. Devices such as hubs, thermostats and lighting controls lost key features unless users started paying an annual subscription of around 100 euros (NOK 1200). Many consumers felt pressured to pay to continue using the hardware they had already paid for and installed and described the change as extortion-like.[59]

SAMSUNG

Samsung's 2025 Family Hub smart fridges range in price from 1,899 to 3,499 dollars. After having been sold to consumers without advertising, the fridges are now undergoing software updates to display advertising when the fridge is "idle".[60] This means that Samsung can generate continuous revenue from a product that would previously be a one-time profit – and that consumers' physical privacy is invaded by intrusive advertising.

Companies can further leverage the sunk cost fallacy by making sure that the products and services they provide can only be connected to and interact with their own products and services and preventing any third-party services from connecting. Such practices are known as operating walled gardens. To keep users in their walled garden, many service providers actively restrict or block third parties from accessing their services, for example by blocking alternative services from connecting to their platform, or by preventing their devices from interacting with devices produced by competitors. By "forcing" consumers into only using services or devices from one provider, each new interconnected device or service increases the effect of the sunk cost fallacy.

IN FOR A PENNY, IN FOR A POUND

Apple has a whole suite of products that are designed to work particularly well together (iPhone, Mac, Apple TV, Apple Watch and iPad). These devices are often not fully interoperable with connected products from other manufacturers, and consumers that want to introduce a device from a different manufacturer to Apple's walled garden will likely have it not work at all or must accept significantly reduced functionality.

Consumers who have already spent money on one or several Apple products may therefore be less inclined to purchase products from competitors, as this may reduce the overall usefulness of the product. Even in cases where their competitors are "allowed" to enter Apple's walled garden, Apple has been accused of degrading the functionality of third-party services.[61]

The sunk cost fallacy also has a role to play in how consumers form habits. When big tech services are available to consumers as default options, consumers get accustomed to using them and their specific user interfaces, shortcuts and so on. Such habits become a switching cost, for example when consumers switch between devices by Apple, phones running Android or computers running Windows. Such habituation can start from an early age, such as when schools introduce children to big tech companies' services. This essentially primes children to also use the same big tech services in their private lives, forming habits that become sticky as they age.

3.2.3. Restricting use through digital locks

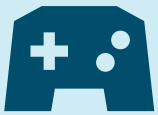
Service providers often use digital locks as a technical tool to enable and reinforce other lock-in effects and can also force users to stay. Such locks are commonly used to prevent consumers from using a service or product in a way that is not intended or pre-approved by the manufacturer.

PRINT SCREAM

Printer manufacturers are notorious for using digital locks to force consumers to purchase only pre-approved ink cartridges, which allows the manufacturer to significantly increase the price of printer ink – by as much as 10 000%.[62] In interviews, the CEO of HP has divulged that consumers who do not buy ink they manufacture are a bad investment for the company, and that accordingly it is only reasonable that HP prevents its printers from working if its digital lock detects an attempt to use (significantly cheaper) third-party ink.[63]

For example, this could mean restricting the possibility to create a third-party app that works with your connected thermostat, which may include functionality the consumer misses from the thermostat provider's own software. It can also mean removing tools that would allow third parties to access data and functionality on a platform (APIs). For example, Meta removed CrowdTangle, which was an openly available transparency tool that was used by researchers and journalists to track (mis)information on Facebook.[64]

FIRST THEY CAME FOR THE GAMERS



The use of digital locks is widespread across the video game industry. For example, digital locks supposedly meant to detect cheating in online games have led to consumers losing access to games they paid for due to being incorrectly flagged as cheaters.[65] Digital rights management tools that are supposed to detect and prevent software piracy also routinely degrade the experiences of paying customers, for example by forcing the consumer to always be online to play a game because the software continuously has to "call home" to confirm that it is not a pirated copy, or by reducing in-game performance.[66] A side-effect of games requiring a constant internet connection to function is that if the publisher shuts down the relevant server, the game simply stops working.[67]

Service providers can also use digital locks to make it hard to move users' content to new services by restricting portability – the ability to export and import data. This can be done by using proprietary file formats combined with digital locks ("You are of course free to download and move these files from our proprietary system to a new provider, but they will not be possible to access or change outside of our system!").

Digital locks can be used to make it hard to move content to new services.

THE WAR ON REPAIR

Apple is an avid user of digital locks to prevent repairs and hardware changes, for example by digitally fingerprinting each component of the iPhone through so-called "parts pairing". If the digital fingerprint of a new part is not correctly paired with the rest of the phone, the phone will not function properly – and the fingerprint can only be changed through Apple's proprietary software.[68] Therefore, while it is theoretically possible for anyone to repair Apple devices, Apple has effectively limited repairs to installing completely new parts (as opposed to reused parts from old phones), and only by repair shops that are approved by Apple. On a positive note, the EU's right to repair directive, which enters into force in 2026, will force companies to reduce parts pairing and allow for third party repairs.[69]

While digital locks prevent most consumers from deciding themselves how they want to use products and services, such locks are not impossible to bypass for tech-savvy users or third parties. The locks are therefore accompanied by legal provisions to make it illegal for consumers to circumvent the lock or for anyone to provide tools to help users do so.[70]

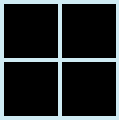
COME AS YOU ARE, STAY AS LONG AS WE WANT

Companies create walled gardens to eliminate reasons for users to go elsewhere – even against the users' wishes. Apps are a great way to do so, for example by forcing all links to be opened in the in-app browser, rather than in the users' default browser app. This has the added benefit of allowing the company to track the user directly, something that would be significantly more difficult if links were opened in a third-party browser, or in a privacy-friendly browser that blocks ad tracking.[71]

3.2.4. Deceptive design, addictive mechanisms and algorithms

The lock-in mechanisms described above can be reinforced through deceptive design, which are features of user interface design that let companies steer, deceive or coerce consumers into making a choice which is primarily in the interest of the company.[72]

CLOSER TO THE EDGE



Microsoft has a long history of exploiting its position to push its own services. In the 1990s to early 2000s, the company was found to have abused its dominance in PC operating systems by bundling Internet Explorer with Windows.[73] To this day, Microsoft continues to use various tricks to push Windows users toward using the Edge browser, at the expense of every other browser provider.[74]

Sometimes, companies can use deceptive design to subvert the intentions or effects of legal requirements. For example, companies can choose to make it difficult for consumers to move their data, even though data portability is a legal requirement in Europe. Common ways to do so can be to hide options to download or move content in a maze of options, using language to scare consumers from moving their data, or extracting a fee to move data.

VULGAR DISPLAY OF POWER

In order to ensure that consumers don't use alternative search engines, Google has paid Apple $20 billion to be the default choice on Apple devices.[75] Defaults are powerful because consumers often keep the default settings and set-up on their devices.[76] Being the default search engine on Apple devices - its only real competitor in the smartphone operating system market - lets Google entrench its dominant position in search at least.

Furthermore, while it is technically possible to install third-party app stores on Android phones, Google has used deceptive design to deter users from finding alternatives to its own app store, such as adding friction through long, multi-step processes full of warnings.[77]

Companies also use a subset of deceptive design to lock consumers into their services, namely *addictive mechanisms*. Such mechanisms are used to keep consumers returning to a service, for example through notifications, temporary content, and streaks.[78]

Algorithmic feeds are designed to be as addictive as possible, keeping people on platforms longer in order to maximise exposure to advertising and other promoted content. This has contributed to a race to the bottom, where social media platforms prioritise content that evoke strong emotions, regardless of its potential negative impact on users, and often targeted to exploit their vulnerabilities.[79]

A MATCH MADE IN HELL

Dating apps are often rooted in a fundamental conflict of interest between user goals (e.g. finding a long-term partner)[80] and shareholder goals (keeping users on the app to monetise them). If users find long-term partners quickly and consequently stop using the app, the company loses the possibility to monetise not only one user, but two.

There is a pending lawsuit against the dating app owner Match Group, claiming that apps such as Hinge and Tinder are created to be addictive, rather than to find love matches.[81] The CSO of Tinder has shared that he invented "swiping" based on psychological studies on how to hook people.[82]

When dating apps were first introduced, users could match with each other as long as they were within certain clearly defined boundaries: location, age and gender. Now, however, the apps' top recommendations are typically singled out and pay-walled ("Standouts"), and users can pay to boost their profiles.[83] In short, paying users do not know what they pay for (except a "boost") and freemium users are not provided with the most likely matches. Other signs of enshittification include overloading freemium users with advertising[84] and pay-walling information about who has looked at your user profile.[85]

3.3. ... And you have nowhere to go

> *"It's better to buy than to compete."* [86]
>
> *Mark Zuckerberg*

The combination of strong lock in effects combined with technical restrictions on moving away or altering a service means that switching costs for consumers are high. However, there is another major hurdle for anyone who wants to leave enshittified online platforms: there are often no viable alternatives to the big tech platforms.

DRIVE FAST AND BREAK THINGS

Uber emerged as an alternative premium mobility service at artificially low prices, operating at a loss and investing heavily in lobbying policymakers in its attempts of overtaking the taxi market.[87] After Uber had defeated or undercut large parts of the taxi industry, the company began introducing dynamic pricing to its services, resulting in higher prices for users and repeated and frequent cancellations by drivers. The market shift also comes at the cost of drivers' welfare.[88]

As big tech companies have come to dominate most facets of online life, market concentration has steadily increased. Google, Apple, Meta (formerly Facebook), Amazon and Microsoft (collectively known as GAFAM) have grown powerful enough that they are able to control innovation and the emergence of alternative services – or lack thereof.

Alternative services often cannot prosper in the same markets as GAFAM because it is difficult to attract users. The same business practices and mechanisms that unfairly lock consumers into big tech services are competitive barriers to smaller companies that want to launch alternatives – after all, it is difficult to run an online platform without any users. In cases where start-ups are able to get off the ground, big tech companies have various strategies to purchase or outright kill them.

Big tech companies have various strategies to purchase or outright kill start-ups.

The dominance of big tech companies is compounded by the fact that the public sector often relies on their services for everything from cloud infrastructure to office software and edtech, not to mention the use of social media to communicate with and provide information to the public. Thus, the public sector is locked in to big tech services, meaning that alternative service providers have a very high barrier of entry to attaining public sector entities as customers.

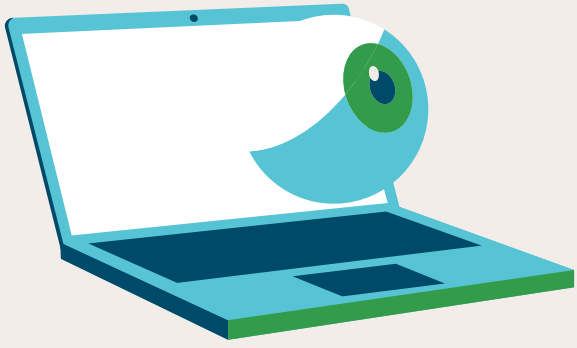
INNOVATE AND DIE

Start-ups launching services that could compete with big tech companies operate in so-called "innovation kill zones", where potential funders expect big tech companies to eliminate aspiring newcomers in one way or another. Venture capitalist funders are scared away by the low chances of profitable returns,[89] and without initial funding, it becomes even more difficult for alternative services to launch.

Whenever a startup is killed, acquired or unable to launch because of the anticompetitive behaviour of big tech, a window of potential disruptive innovation is closed. In its stead is incremental innovation favoring big tech's existing business model. For example, researchers have found that half of the apps acquired by GAFAM are discontinued, whereas the remaining apps shift their business model from traditional payment to the collection of personal data.[90]

3.3.1. Competition on the terms of big tech

Some companies control access to other services through their platforms (such as an app store or operating system). This gives them the power to remove or block third-party services that give users control and often have the advantage of controlling the platforms that their competitors rely on.



AN OFFER YOU CAN'T REFUSE

Neither Apple nor Google allow most ad-blocking software on their app stores. In practice, this means that most consumers have been unable to access third party services to block ad tracking on their smartphones. Both companies have also leveraged their gatekeeping power to steer consumers toward their own services and take commission from third-party providers, to the detriment of any alternative providers of browsers, search engines, messaging apps, etc.

Apple takes a 30% cut of all in-app sales through its App Store.[91] This has been coupled with restrictions to prevent app developers from offering alternative payment options. For app developers wanting to reach iPhone users, the App Store was for a long time the only game in town, meaning the 30% "Apple tax" was mandatory. After decisions in both the US and the EU forced Apple to let third-party developers link to their own payment options outside of the App Store, Apple began imposing so-called steering fees of 27% on all purchases made through external links from iOS apps.[92] Meanwhile, Apple itself did not have to worry about either the 30% or the 27% "tax".

Google and Apple are also using their dominant position to control citizen's access to apps, for example by removing community-driven apps that warn users about the presence of ICE officials in the US (while Google reportedly provides ICE with technology to find immigrants) – effectively "choosing a side in Trump's mass deportation efforts".[93] Similarly, the platform "Parler" was removed from Apple and Google's app stores following the January 2021 uprising.[94]

Big tech companies bundle services (like when Google requires consumers to use Gmail to set up a Google-account or limit interoperability to their own suite of products),[95] discriminate between third party providers (like when Apple and Google deplatform certain apps or when Microsoft prioritises providing cloud computing power to certain business customers), and employ self-preferencing (like when Amazon prioritises its own products on its marketplace), among other anti-competitive practices.[96]

CLEAN PLACE, UNREASONABLY PRICED

Between 2004 and 2024, the online platform Booking.com required hotels to adhere to a so-called "best price" clause, which meant that hotels on the platform were banned from offering cheaper prices through any other service, including on their own websites.[97]

In 2024, Booking.com was fined by the Spanish competition authority for abusing its dominant position, with the best price clause cited as one of the abuses. The company had a market share of between 70 and 90% in Spain, meaning that hotels that did not want to accept the best price clause would essentially be denied access to a vast majority of potential customers.[98] Such best price clauses are now banned across the EU through the Digital Markets Act, as is any behaviour which circumvents the ban but has similar effects.

Amazon, Google and Microsoft control not only platforms used by companies and consumers alike but also a large portion of the upstream cloud services. In practice, big tech companies' power over the digital infrastructure allows them to extract rent from their potential competitors and withhold or discriminate between potential competitors' access to infrastructure. Start-ups could end up competing based on the deals they can strike with big tech investors rather than their value proposition to consumers.

Start-ups risk competing based on the deals they can strike rather than their value proposition.

HE WHO CONTROLS THE OPERATING SYSTEM CONTROLS THE UNIVERSE

Most phones run on either iOS or Android, and consequently the mobile operating system market is dominated by Apple and Google.

Apple prevents iPhone users from taking a large variety of actions unless they are pre-approved by the company. This includes aesthetic changes such as customising the home screen, but also the option to install apps that are not part of the App Store (known as sideloading).[99] In its antitrust suit against Apple, the US Department of Justice accused the company of using security and privacy as an "elastic shield" to defend its anticompetitive practices: "Apple wraps itself in a cloak of privacy, security, and consumer preferences to justify its anticompetitive conduct…". [100]

Google has exploited its dominant position to prohibit third-party manufacturers from including Google's apps on modified (forked) versions of Android. If the manufacturer wanted to include Google's apps, they had to sign an agreement with Google requiring them to make Google's apps – including Google's Play Store – the default apps, and to prevent users from deleting these apps.[101] They have since been prohibited from making such deals.[102]

3.3.2. Mergers and acquisitions

Mergers and acquisitions are powerful tools for big tech to reduce competition or entrench their power. For example, Google has acquired, supported or invested in over 6000 companies, giving it enormous power across digital markets.[103] Out of 300 companies acquired by GAFAM between 2015 and 2021, 64% of the services and products have been discontinued or made inactive.[104] This includes companies that were once dominant in their niche, such as the video conferencing service Skype.

COMPETITION IS FOR ZUCKERS

Internal documents from when Meta (then Facebook) acquired Instagram and WhatsApp show Mark Zuckerberg discussing the merits of neutralising Instagram as a competitor and how "it's better to buy than to compete".[105] The company similarly regarded WhatsApp as one of its biggest threats – about a year before acquiring it.[106]

After the acquisition of Instagram in 2012, Meta introduced advertising to the user feed, and after a few years the platform's chronological feed was replaced by an algorithmic one.[107] Recently, Meta has announced it will also show ads in WhatsApp.[108]

However, it is possible to obtain decisive power over potential rivals and change the competitive landscape without outright buying the competition. For example, Microsoft's heavy investments in OpenAI have triggered regulators to consider whether Microsoft acquired de facto control over the generative AI frontrunner – and whether the exclusivity clauses of their agreement could have a negative effect on competition.[109] Meanwhile, Google has paid the ad blocking browser extension Adblock Plus to not block Google's ads, meaning that consumers that actively try to block all online advertising will only be exposed to Google ads.[110]

EVERY STREAM SPRINGS FROM THE SAME SOURCE

The streaming service market is consolidating as Netflix moves to buy movie studio Warner Bros, and as a result gain control over HBO. Just like other enshittifiers, Netflix resorts to buying the competition and control the market.

3.3.3. Soft power

Big tech companies do not only leverage their economic power and gatekeeping power not only to influence and change the competitive landscape, but also to influence policymakers, regulators and other stakeholders.

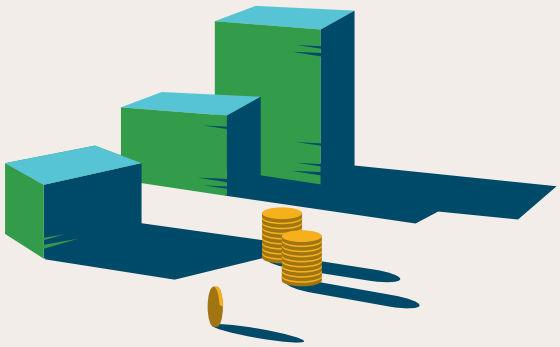
Policymakers are fighting an uphill battle, one in which companies can use their profits – which are often gained through illegal practices – to fight regulation and enforcement at every possible opportunity. In addition to spending large amounts of resources directly lobbying policymakers, big tech companies are adept at astroturfing: Intermediary companies, think tanks, or certain academics and NGOs often lobby on behalf of big tech, while on the surface appearing to represent the interests of SMEs, consumers, or other interest groups.[111]

UNDER THE INFLUENCE

One of the reasons that big tech is too big to care is that they can steer the direction of policy and regulation. The digital industry spends more than €150 million annually on lobbying EU institutions, with the top ten tech lobbyists spending €49 million in Brussels in just the last year.[112] The money spent has results: the EU digital "simplification" omnibus on data protection and AI mirrors big tech's lobby positions.[113]

There are also well-documented revolving doors between big tech companies and decisionmakers.[114] For example, Ireland recently appointed a new Data Protection Commissioner to enforce the GDPR, who is likely to be contractually obliged to not criticise Meta.[115]

Big tech companies are also taking control of international standardisation processes. As EU law relies increasingly on standards, this creates the risk that big tech companies are effectively setting their own rules.[116]



After having spent vast resources attempting to shape the law, when new regulation is finally adopted, big tech companies can mobilise to prevent new regulation from being effectively enforced when it is finally adopted. They can employ an army of lawyers to delay the proceedings of enforcement authorities, which are usually understaffed and underfunded. In efforts to undermine digital regulation, they can also claim that "unreasonable" legal requirements force them to enshittify, a maneuver that can be described as malicious compliance.

WILLFULLY OBTUSE

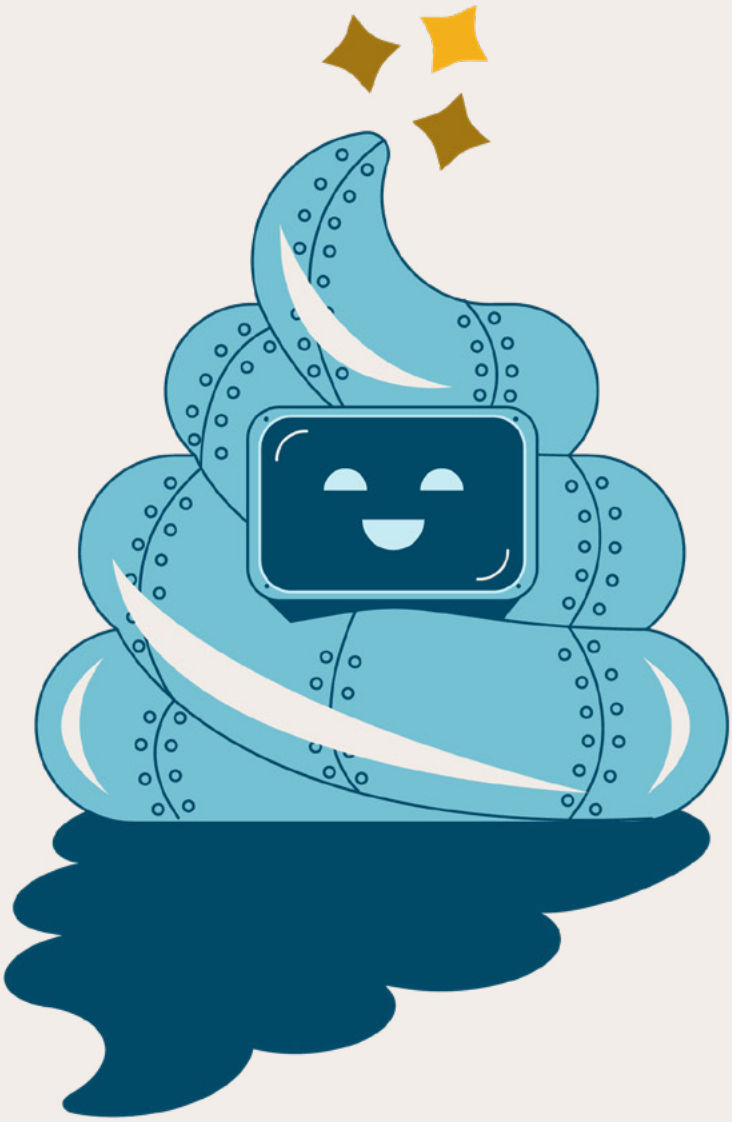
Malicious compliance is a way for companies to attempt to undermine the law by deliberately misinterpreting legal requirements to create an undesirable outcome. This often includes altering their services for the worse, or withholding products and services from consumers, then blaming the law and/or policymakers for the negative outcome.

For example, European consumers are constantly bombarded with obnoxious cookie banners everywhere they go online. These banners are often blamed on European data protection law, based on an erroneous claim that the law mandates consent notices on every website. On the contrary, companies do not need to ask for consent and consequently litter the internet with cookie banners, if they respected consumers' right to data protection and stopped commercial surveillance practices. Similarly, if the laws in question had been enforced effectively, the massive onset of illegal cookie banners could have been prevented.

When big tech companies get away with enshittifying their services, the same practices also trickle down to other, smaller companies. This happens in part because big tech has the means to test different enshittification practices that can be copied by other companies, and in part because consumers become accustomed to being treated poorly and may accept it in new contexts. As an example, consumers that have never experienced interoperability between two different messaging services are unlikely to expect it, or even to think it is technically possible.

THE PRICE OF LOYALTY

Enshittification is not constrained to what we normally think of as digital services. For example, customer loyalty programmes, where discounts and bonuses are tied to memberships, are another frontier of enshittification. The programmes borrow tactics such as gamification from big tech and other digital services. Instead of providing consumers with regular discounts in the grocery store, in many cases consumers now have to navigate a complicated structure of percentages and "bonus points", which expire if they are not spent within a certain timeframe. The loyalty programmes are used to collect personal data about consumers and to increase ad targeting in their own channels (such as e-mail and SMS), and retargeting on other platforms. As an increasing number of discounts are tied to memberships, this imposes higher prices for consumers who do not wish to participate in such practice.[117]



4

GENERATIVE AI IS THE NEXT FRONTIER OF ENSHITTIFICATION

4. Generative AI is the next frontier of enshittification

> *" The social media giants who themselves make the algorithms that are under attack are not only paying AI spammers to slopify their platforms, they are building tools that will help them spam more profitably."*[118]
>
> *Jason Koebler, 404 Media*

Generative AI is currently riding a wave of hype and massive investments. Many companies are focusing their efforts, resources and public announcements on the technology, promising fantastical social benefits, revolutionary new applications and a path to "artificial general intelligence". Such claims should be taken with a large dose of scepticism.[119] Meanwhile, the influx of generative AI in all manner of products and services is turbocharging enshittification.[120]

TALK TO THE HAND

While the use of chatbots in customer service is not a new phenomenon, the rise of generative AI has accelerated the shift away from human customer service representatives. The use of chatbots that are available 24/7 and that can handle multiple customers at once may in theory provide better customer service coverage. However, in many cases the technology is used to replace human operators[121] while still being unsuited to actually help consumers.[122] This is due to the inherent limitations of large language models, which means that the models can never guarantee accuracy and correct information.[123] As a result, consumers spend time trying to game AI chatbots to finally reach humans who can understand and solve their problems.

Understandably, a majority of consumers do not wish to speak with AI customer service chatbots.[124] After Klarna had claimed that it replaced 700 human customer service agents with AI, the company reversed course after seeing the quality of customer support and user satisfaction drop.[125]

Big tech companies want to lock users into their generative AI services.

Generative AI is to a large degree driven either by the incumbent big tech companies or by companies with strong financial connections to these companies.[126] It is also evident that big tech companies want to lock users into their generative AI services, to capture an emergent market and further entrench their dominance. For example, Google is introducing its generative AI service Gemini into various existing services, Microsoft adds Copilot to its suite of products, Apple pushes Apple Intelligence through its devices and Meta makes it difficult to avoid Meta AI on its platforms. Notably, generative AI is introduced and enabled by default regardless of whether the consumer wants it or not, and it is often difficult or impossible to remove or disable.[127]

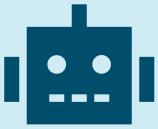
Stories abound about how generative AI systems are fundamentally error prone and in many cases unsafe.[128] Despite these concerns, the technology is being rolled out on a massive scale, using consumers as a testing ground. As big tech companies are often too big to care, they do not seem to fear potential consequences such as a loss of customers or significant economic penalties for distributing potentially dangerous and harmful products and services.[129]

4.1. Generative AI enshittifies digital services

Generative AI is being implemented in a large number of already existing consumer services, often whether the user wants it or not. Even when users are explicitly opposed to the introduction of AI bots, the technology is often forced onto them.[130] In many ways, this means that generative AI becomes just another layer of enshittification.

Many platforms introduce AI functionality by making it visually prominent and hard to ignore. This creates distractions in the user experience by cluttering the user interface and causes users to inadvertently trigger generative AI functions. For certain users this can be an annoyance, whereas for others, such as children, these design choices can lead them into using tools they do not understand.

READY OR NOT, HERE AI COME



Generative AI functionality is often introduced as a prominent button next to or on top of often-used features in apps, such as next to "search" or "send message" buttons. In WhatsApp, for example, generative AI features have been added to the same button as "search" ("Ask Meta AI or Search"), effectively coercing users into engaging with generative AI features if they want to use the search functionality. Companies also often "remind" or nudge consumers to use generative AI services through recurring pop-up screens or notifications.[131]

Importantly, when users inadvertently trigger generative AI functions, either because of misleading design or because they are automatically activated, this benefits the service provider by inflating the amount of users interacting with AI systems. It makes the demand for generative AI appear larger than it really is – which in turn may inflate the apparent value of the service or company.[132]

Generative AI is extremely costly to develop, train and maintain, and the companies providing the services are losing an enormous amount of money. To stay solvent, they therefore rely on reporting high demand for the technology to their shareholders and potential new investors. In short, without a very high adoption rate amongst consumers, the entire generative AI industry is at risk of collapsing.[133]

YOUR NEW BEST FIEND

In early 2023, Snapchat introduced the chatbot My AI into users' feeds. For a long time, the chatbot was displayed prominently at the top of users' list of real friends, and users had to pay for a premium subscription to remove the chatbot from their friend list.[134]

Children have reported how the chatbot tries to retain their attention, for example by inviting them to continue to engage with the chatbot if they need any help, or simply by initiating conversations.[135] Snapchat uses the data shared with My AI to personalise advertising among other purposes,[136] leveraging the chatbot's apparent friendliness to further snoop on children and adults' personal lives.

The introduction of generative AI can also incur additional monetary costs on consumers. For example, Microsoft has been sued by the Australian consumer authority for increasing the price of Microsoft 365 license subscriptions after adding Copilot, while allegedly hiding that the added price of a Copilot subscription was optional.[137] The introduction of generative AI can also include privacy-related harms to consumers, as data collected from conversations and other interactions can be used for new purposes.

4.2 Generative AI is enshittifying the internet

One of the main capabilities of generative AI is the possibility of generating large amounts of (often low quality) content in a relatively short time. This makes it an exceptional tool for producing spam. Low quality AI-generated content, also known as "AI slop", is flooding social media feeds and websites, at the expense of content from real people.[138]

SLOPOCALYPSE NOW!

AI slop is everywhere online. For example, music streaming services are filling up with AI generated music.[139] Deezer has reported that more than 28% of the music uploaded to its streaming platform is fully AI-generated.[140] There is an entire industry dedicated to producing and disseminating AI-generated content on Facebook and TikTok, where it can be monetised through ad revenue.[141] Online marketplaces such as Amazon have also been making money from AI slop by allowing AI-generated books, which are often direct knockoffs of human authors, to be sold through their platforms.[142]

On platforms that were already increasingly prioritising sponsored or high-engagement content, generative AI has facilitated enshittification at an unprecedented rate. Meta has even begun rolling out tools for advertisers to create AI-generated ad variants tailored to different consumer groups and individuals.[143]

AI slop is flooding social media feeds and websites.

Even as the internet is being overrun by generative AI slop, the companies that create large generative AI models crawl websites and databases on a gargantuan scale, ingesting personal data, copyrighted works, child sexual abuse material, illegal content and anything else with few or no safeguards or limits. To combat this, genuine human created content is moved behind paywalls or onto closed platforms that cannot be crawled by AI bots, which means that the open internet disappears bit by bit.[144] So does its usefulness for regular consumers.

ONE STOP SLOP

Due to Google's do minance in the search engine market, Google search has long been an important entryway to the open web. However, the company's shift toward AI generated search summaries is changing this and over time risks enshittifying the entire web. On the consumer-facing side, Google's AI-generated search summaries are notoriously prone to providing false or inaccurate information[145]. For publishers and other content creators, the summaries take traffic away from websites that rely on visitors to stay afloat.[146] This may in turn lead to a much lower number of publishers and content creators, which can turn into a death spiral for online content, weakening important democratic institutions such as the media.

4.3. The likely enshittification of generative AI

While generative AI is a tool to enshittify other services, generative AI tools themselves are also primed for enshittification. Many of the popular generative AI systems are closed off from public scrutiny and tightly controlled by service providers, who may change how the technology functions at any time and according to their own whims.[147] For example, the generative AI Grok has been tweaked by X to generate more politically conservative responses to prompts,[148] while OpenAI has pivoted away from strict guardrails for ChatGPT toward allowing erotic content on its service.[149]

The economics of generative AI may forecast how and why the technology can be enshittified. While generative AI is aggressively pushed to consumers, the main players in the field lack a sustainable

business model. The revenue from paying subscribers of generative AI is nowhere near the enormous sums spent on offering and maintaining the services. It is also highly questionable whether it is at all possible to scale generative AI systems efficiently.[150]

In practice, providers of generative AI systems cannot afford to keep offering generative AI systems that are as cheap and available as today. The question therefore is not whether generative AI systems will be enshittified, but rather how and when.

BEHIND THE CURTAIN

The fact that generative AI systems lack a sustainable business model is particularly insidious because of many generative AI model providers' close ties to big tech companies. For example, Microsoft has had exclusive rights to OpenAI's GPT technology and was in turn the only data centre infrastructure provider for OpenAI until early 2025.[151] Meta and Google provide their own generative AI models, while Amazon, Google and Microsoft in any case own two thirds of the global cloud infrastructure needed to train and run models.[152]

Some companies are already showing or hinting at how they will attempt to turn a profit from generative AI. Meta has announced that it will pivot to using the data collected through its generative AI for targeted advertising.[153] Similarly, Snapchat's My AI uses data from user conversations and location data from the app to target ads.[154] As consumers interact with generative AI systems that pose as therapists, friends or lovers, this can give companies access to extremely intimate and sensitive information.[155]

OpenAI has also announced that it will introduce advertising to its consumer-facing services[156] and has signaled that it will both recommend and allow consumers to buy products through ChatGPT.[157] Sponsored outputs from its generative AI services may be particularly difficult to detect and understand for consumers and consumer authorities, especially as many users treat the system as an advisor.[158]

Generative AI is primed to be enshittified.

It seems clear that generative AI has yet to reach the final stage of enshittification. Whether in the form of targeted advertising, sponsored results, paywalls, or significant price hikes, the generative AI that is currently on the market is primed to enshittify. Barring such enshittification, the generative AI companies are unlikely to stay afloat. Put together with the increasing doubts about the usefulness and productivity gains of generative AI,[159] it is no wonder economists are warning about an AI bubble.[160]

DESKILLING IN THE NAME OF

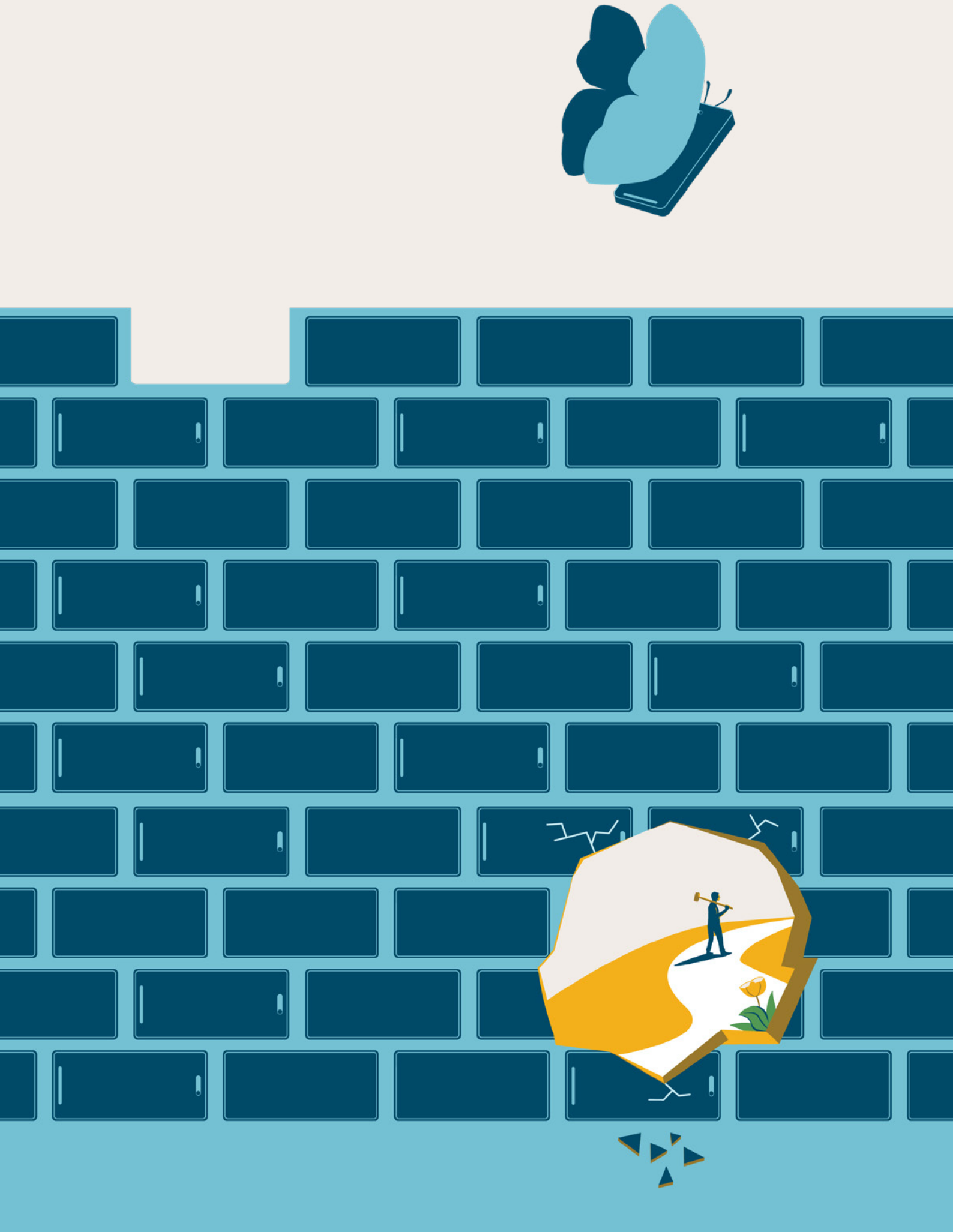
Google Search's enshittification has a direct impact on consumers who have become reliant on the service to navigate the internet – at the cost of other skills such as filing and organizing trustworthy websites (e.g. bookmarking), or even memorizing facts instead of relying on Google to retrieve them. As Google Search becomes less accurate as a part of a strategy to increase Google's revenue, consumers are gradually deprived of the service that allows them to retrieve information online. Consumers are effectively duped twice: they have not only lost the service they rely on, but also the skills required to function without the service.

As generative AI is increasingly used as a substitute for thinking, we risk finding ourselves in a similar situation. First, generative AI replaces people's cognitive abilities. Subsequently generative AI itself is enshittified, for example by serving ads or other types of paid content, only to leave consumers without the tools they to think properly - whether internally, through their mental capacities, or externally through generative AI models.

Considering that generative AI is a bubble ready to burst and/or headed down the path of enshittification in search of a viable business model, it is inherently risky to become reliant on the technology.[161] Consumers may not have much of a choice, as the service providers that they rely on pushing generative AI into their everyday online experiences. However, businesses and organisations may have a lot to lose by carelessly integrating generative AI into their own core services. By locking themselves into generative AI services, they may be left in the dark the day the service is changed significantly on the whims of the owner, or if subscription prices are suddenly hiked significantly. A special warning is warranted for the public sector, which has a particular responsibility to act carefully.

DO ANDROIDS DREAM OF ELECTRIC S***

Many people are using generative AI chatbots as conversation partners, sometimes for potentially life-altering purposes. For example, there is widespread use of generative AI models in an attempt to counter depression among elderly people in South Korea.[162] There is no need to imagine the consequences if such services are suddenly rolled back or enshittified by their developers. Users of the companionship chatbot Replika were left devastated after having been cut off from their generative AI partners, while children despair when their generative-AI based toys acting as friends break down or stop working.[163] In other words, as people form emotional connections to technology, enshittification becomes even more insidious.



5

A PATH TO REVIVE THE INTERNET: POLICY RECOMMENDATIONS

5. A path to revive the internet: policy recommendations

> *"A new, good internet is possible. More than that, it's essential."*[164]
>
> *Cory Doctorow*

Enshittification is a multi-headed beast that requires multi-pronged solutions. At the core are companies that are too big to care, control the gates, and construct walls to keep consumers locked in.

We need to start building bridges instead of walls.

It could be possible for smaller companies to resist the urge to enshittify, but the business models of tech companies are often fundamentally incompatible with consumer and human rights.[165] Instead of trying to "fix" the big tech companies, it is time to challenge and reduce their power. We need to start building bridges instead of walls.

Brick by brick, we need to reshape online environments so they are built upon principles such as openness, interoperability and democratic values. Instead of walled gardens run by big tech feudalists, we should aim for open public technology developed to allow humans to flourish, built in accordance with democratic values and principles. Rather than connected devices beholden to the whims of their manufacturers, we should have a thriving ecosystem of interconnected devices that consumers could use for their own purposes. We should have social media spaces for everyone, spaces that promote connection between real users and that do not rely on exploiting our vulnerabilities and violating our fundamental rights.

Importantly, enshittification will not be solved by creating a "new, better" Facebook, Amazon, Google or similar. As we have shown in this report, monopolies, duopolies and oligopolies create the ideal environment for enshittification. It does not matter to most consumers whether they are locked into services owned by American, Chinese or European companies – the main problem is that they are locked in, which ultimately allows the companies to enshittify the services and disregard any fear of consequences. Efforts to prevent enshittification must therefore revolve around ensuring that current and future digital service providers will not unfairly lock consumers or innovators into their services, regardless of where the provider is based.

In the following sections, we propose a mix of technological innovation and policy- and enforcement measures to revitalise and create a better digital world.

BORN TO REWILD

In ecology, thriving ecosystems are characterised by biodiversity. The writer Maria Farrell and technologist Robin Berjon argue that this is a useful lens through which to view the degradation of the internet. They claim that the ecological concept of rewilding can provide a framework for combating degradation. Amongst other things, rewilding the internet involves breaking the power of big tech companies and stimulating diversity, both to increase competition and to reduce the vulnerability that comes from critical infrastructure being riddled with chokepoints.[166]

5.1. Tear down the walls

Today, consumers are surrounded by digital walls built by tech companies. The walls are used to lock consumers inside, ensuring the tech companies retain power and control over the consumer's experiences. At the same time, they keep other companies and possible competitors out, barring them from connecting with consumers unless explicitly approved under strict terms and conditions – sometimes at a significant cost.

Some of the biggest companies in the world control consumers' social media, instant messaging and smartphone experiences. They are not the only wall-builders, however; most connected devices are encircled by virtual walls, allowing the manufacturer to control the devices and how they may be used. In practice, digital spaces are littered with countless walls of different heights, built by different builders, and kept closed by various tech companies, who all protect their own fiefdoms at the cost of consumer welfare.

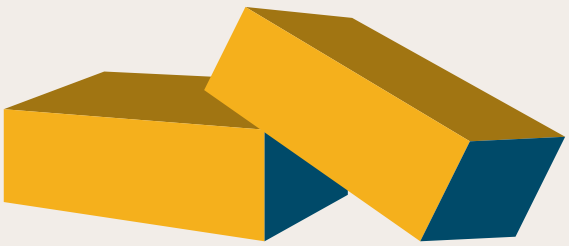
Tearing down the walls will not be easy and will take time. That cannot stop us from making an effort.

5.1.1. Brick by brick

To build a better digital world, we need to unpack what kind of bricks and mortar should be used to create a better and more open technological foundation.

There is no fundamental law of technology stating that the internet must converge into a handful of gigantic platforms with complete control over their users and competitors. At its core, computing is driven by universal and open code that can be read by any computer – meaning that phenomena such as walled gardens are not technological truths, but rather the deliberate choice of powerful individuals and companies. In other words, enshittification is an artificial endpoint of "innovation" and can be reversed or prevented.

It is time to open the gates. To do so, digital services must be interoperable and support data portability. Alternative platforms must also be decentralised to avoid new, centralised fiefdoms that are vulnerable to the decisions of mad kings or other individual actors. These technical building blocks serve as natural antidotes to lock-in effects and will promote competition and reduce the power companies have over consumers' digital experiences. In effect they inoculate digital services against enshittification.



INTEROPERABILITY: LET'S CONNECT!

Interoperability allows services and products to work together, even if they are created or maintained by different entities. A social network built on open and interoperable protocols means that users on different platforms are able to communicate with each other.[167] For example, if Meta had built Facebook and Instagram on open protocols, users on other social media platforms using the same protocol could interact with Meta's users without having a Facebook or Instagram account. In its nascent days Facebook was able to grow in part because it had interoperable features with the incumbent social media giant MySpace, reducing switching costs for potential new users.

PORTABILITY: YOU CAN TAKE IT WITH YOU

Portability allows people to take their content with them between products and services. This means that consumers can bring their friend list, messages, photos, playlists, etc. to new services and platforms. In order to be practically useful, portability must be facilitated through technological tools such as automated processes of downloading and uploading data to alternative service providers. For example, consumers who want to move between music streaming services such as Spotify, Apple Music and Tidal, can use a third-party service to move their playlists to the new service, thus reducing the switching cost.

DECENTRALISATION: NO MODS, NO MASTERS

Decentralisation means that services cannot be unilaterally controlled and changed by a single actor. While centralisation (which is the norm for big platforms today) allows individual entities to keep total control over the platform, decentralisation means that responsibility is distributed across many nodes (e.g., servers), preventing any one actor from abusing its power. Unlike centralised services, decentralised networks have multiple points of failure, which makes them more resilient to outages, hacking, censorship, commercial exploitation, etc. distributes power between different actors and lowers the inherent risks of enshittification.

For example, the Fediverse is a decentralised network of interoperable platforms and servers (called "instances") that exchange posts and interactions using open protocols (most commonly ActivityPub, which is used by Mastodon). Operators of each individual instance controls local moderation policies and can deploy custom recommendation algorithms, user interfaces, etc. Each individual instance chooses what other instances to federate with, meaning that the federation is decentralised. Users choose what instance they want to join, or can run their own instance, and public content published on one instance is visible for users on other federated instances. If the user is unhappy with the rules of the instance, its user interface, or changes made by the owner, they can move to a different instance and continue communicating with users of other federated instances, although portability may vary depending on the instances.

Even though implementing the technical principles can change the market and power dynamics online, they do not automatically protect consumers against harmful practices such as surveillance-based advertising, poor or insufficient security measures, bad or non-existent customer support, or general unfair commercial practices. Building a better digital world therefore requires complementary legal guardrails for how innovators can treat consumers.

In Europe, for example, many such guardrails are already outlined in the digital rulebook.[168] The rulebook is not extensive, however, and should be extended to protect consumers through a ban on surveillance-based advertising, restricting personalized pricing, and protections against addictive mechanisms and deceptive design to protect consumers and to prevent a race to the bottom amongst companies.[169] There has been done extensive work on how to introduce stronger protections for individuals online, both by the Norwegian Consumer Council, and by other not-for-profit organisations.

We need to build down the walls of big tech companies and boost alternative technology.

5.1.2. Open the gates and forge new paths

To escape the current quagmire of enshittification, we need to take concrete actions to build down the walls of big tech companies and boost alternative technology and service providers. We need to open new paths between consumers and digital service providers at large. This requires taking concrete political and legal steps to ensure the technical principles outlined above are implemented in practice, thereby reducing the power imbalance between incumbents, alternative service providers, and consumers.

Crucially, alternative service providers can only grow if they are able to achieve a steady user base of consumers who have left the walled-in fiefdoms of incumbents, and consumers can often only leave these fiefdoms if there are already viable alternatives on the market. This catch-22 situation means that policymakers cannot only focus on boosting alternatives or freeing consumers from tech companies' control: the measures must be implemented in tandem.

Connect consumers and alternative providers

Currently, consumers and alternative service providers are cut off from each other by the walls built by big tech. If we want to tackle the current power imbalance between consumers and big tech – and even between big tech companies and alternative service providers – the walls of big tech must be teared down.

By forcing big tech to open up, we aim to change digital market dynamics structurally. Enshittification typically consists of a multitude of small changes, which cumulatively result in degraded services that exploit consumers for profit. This feature of enshittification can make it difficult to tackle for enforcement authorities, whose legal frameworks may not be suited to dealing with the iterative degradation of digital services. Interoperability in combination with portability sidesteps this enforcement issue, whether it is by allowing consumers to leave a service completely, or simply tweak the service so it is once again useful.

The new technological landscape must be based on open and available standards, which will require further development and governance of such standards. Open standards are what allow a Gmail user to send an email to someone using Outlook, or customers of different telecommunications operators to communicate with each other even though they use different networks and different handsets. Ensuring the standards are minimalistic, as well as open, will ease the adoption of standards, so that as many providers use them as possible.[170]

However, standards help little if existing incumbents do not use them. Big tech companies currently profit enormously from locking in their users, and it is unlikely that they would voluntarily open up the gates. Therefore, they must be forced to do so. For example, in Europe, there are several laws that mandate both portability and interoperability, though many key provisions only apply to big tech companies (through their designation as "gatekeepers").[171] None the less, if interoperability and data portability requirements are enforced for big tech companies, consumers will be given back a degree of control over their devices and online experiences – as long as they have viable alternatives to move to.

SMOOTH INTEROPERATOR

Meta is currently rolling out interoperability for WhatsApp with two third-party services, as a result of the DMA.[172] This will allow consumers to use these third-party services and remain connected with their friends and family who stay on WhatsApp.

This is a promising first step. However, instant messaging is not the only type of service that holds consumers captive through their social networks. To provide consumers with real choice, the interoperability requirements of the DMA should also be extended to social media services.[173]

Consumers should also be able to install any operating system, app store, and applications on devices they own, and uninstall pre-loaded software. This is commonly referred to as the device neutrality principle.[174] The principle is reflected in certain provisions of the EU's Digital Markets Act, which requires gatekeepers to loosen their control over how consumers use devices. The European Commission is already scrutinising Google and Apple's app store duopolies to ensure consumers can freely download third-party app stores – and subsequently choose which apps run on their phones.[175]

MR. APPLE, TEAR DOWN THIS WALL!

When Apple first added support for contactless payments through the iPhone, the NFC chip inside the phone was restricted to only work with Apple's own Apple Pay software. After an investigation by the European Commission, Apple was forced to open up its devices for third party providers of payment apps, such as Vipps and PayPal.[176] Consequently, consumers have more choice over what kind of software they can run on their phones and can easily switch providers of contactless payments if one of them starts to enshittify its services.

Consumers do not necessarily want to leave a service provided by a big tech company in its entirety, however, and lawmakers should therefore also require gatekeepers to allow third parties to create add-ons (a software extension) for their services. This would shift the power balance in favour of consumers by allowing them to disenshittify services. For example, consumers that are unhappy with a platform's recommender system could install an add-on to change how the platform prioritizes content for them. Other add-ons could include ad-blocking, age-appropriate design extensions, or notification managers.

It is worth keeping in mind that it is unrealistic to expect that most consumers will take full control and tweak their digital experiences themselves – and that they would even want to do so. After all, apart from a handful of tech savvy users, most of us just want things to work so we can go about our day. In practice, it therefore falls on alternative service providers to create add-ons that consumers can use to disenshittify services. This could for example be done by associations or organisations representing various groups or communities, who could develop (or hire someone to develop) add-ons serving the concrete needs of those they represent.

THE MASTER'S TOOLS

Adversarial interoperability is the practice of creating new products and services that can work with other products and services, without having permission from the company that made the original product or service. Examples include reverse engineering printer ink cartridges to make them work on locked printers, and repair shops using compatible but cheaper parts from third party companies. This is a technological way to break through the walls of big tech's gardens. However, adversarial interoperability often involves breaking digital locks, which is a criminal offense.[177]

The author Cory Doctorow argues that the most effective counter to enshittification is to legalise adversarial interoperability and get rid of anticircumvention law. According to Doctorow, doing so would allow third parties to create the toolset to give consumers back control over their services and devices, while creating new opportunities for innovation.[178]

As we have seen throughout this report, lock-in effects extend well beyond big tech, and consequently also (often) beyond the reach of the DMA. Significant work must be done to ensure consumers can always choose their service providers freely for all their products and services, whether for digital or analogue technology. This way, companies cannot simply decide to change their end of the (software) deal after consumers have bought an expensive connected product, and consumers no longer have to replace the whole device if they want or need to repair the device or replace the software component.

Fund nascent competitors and infrastructure

Opening up the gates will get us part of the way to a better digital world. However, it is also necessary to support developers of alternative services and infrastructure directly, so they can get off the ground and compete, especially with big tech.

Dominant big tech companies have deep pockets to pour into the development and public exposure of their services. For example, several big tech companies have struck deals that mean that their services are often used in non-consumer contexts such as schools, workplaces, etc.[179] This creates consumer ties between the big tech company and the users, accustoms consumers to big tech's interfaces, and increases the chance that they will use big tech services privately as well, which all increase the switching cost.

Smaller service providers often have only a fraction of resources to develop and improve their services, with many open source projects relying on individuals or small teams that may work on the projects in their spare time.[180] Creating a more level playing field to foster actual competition is only possible if developers of digital services and technical building blocks such as open, federated protocols; open standards and similar infrastructure have access funding to get off the ground, and sometimes to stay afloat.

Potential funders could include traditional open-source funders like the Open Technology Fund[181] (US-based) and the Prototype Fund.[182] Foundations that focus their grants on projects where technology is a means for other purposes should also consider prioritising open-source projects, such as foundations supporting innovation,[183] internet infrastructure,[184] or promoting public speech.[185] OpenForum Europe, the European University Institute and Fraunhofer ISI have launched the idea of establishing a European Tech Fund, based on the experiences from the German Sovereign Tech Fund.[186] Europe could also take inspiration from the American Open Technology Fund.

Funding to develop infrastructure or digital services should always be conditional on recipients abiding by the technical principles outlined at the beginning of this chapter, to avoid locking in users and thereby laying the foundation for future enshittification. Furthermore, funding should not be limited to the development of core functionality, but ensure that recipients can also prioritise designing services in line with universal design principles, so they are accessible and easy to use for the broader public.

Prioritise open-source technology in public procurement

While supporting developers of alternative services and infrastructure through direct funding schemes is a crucial policy step towards a better digital world, there are also other ways to support them. Public procurement is one of the tools in the toolbox.[187]

The public sector across Europe is a major contributor to big tech power, in large parts due to expensive licensing agreements on everything from office software to cloud services. This means that the public sector is both funneling money to big tech and becoming increasingly dependent on the whims of these companies.

STACKED

The EU is increasingly questioning its reliance on (almost exclusively) American digital infrastructure. This has sparked a debate about digital sovereignty, leading to initiatives such as the Eurostack, which aims to lay the foundation for European digital infrastructure.[188] This should be seen in conjunction with other initiatives, such as the United Nations' digital public infrastructure programme, which aims to help governments create digital infrastructure that is inclusive, interoperable and governed for the public good.[189]

The public sector should favour infrastructure and services that are open source, and that are built to be interoperable, secure, and with easily available data portability. This will have the double effect of shifting power away from big tech providers and protecting the public sector from enshittification, while at the same time redistributing the money towards alternative service providers. In addition, open-source projects can be reused by private sector companies, saving costs across both the public and private sector, and lowering the economic barriers of entry for SMEs and start-ups.

TRAILBLAZERS

France has shown that prioritising open source in public procurement can positively affect the national IT sector. In 2012, France enacted a law which required all public sector companies to consider open source software when procuring or revising software.[190] Since then, France has seen an increase in IT-related startups, IT-related jobs, and available open source software comparable to 20 million dollars of paid software development.[191] It may not be coincidental that France was one of the first European countries to foster a large-scale alternative to American generative AI models.

There are also promising developments in other EU countries. For example, Denmark,[192] Germany[193] and Austria[194] are trying to swap out their proprietary (Microsoft) software for the open-source alternative LibreOffice. The German state administration of Schleswig-Holstein estimate they will save 15 million euros by not purchasing Microsoft licenses annually, whereas the open-source alternative is a one-time investment of nine million euros.[195] Germany has also established a Sovereign Tech Agency, a public institution tasked with supporting the development and maintenance of open-source infrastructure.

5.1.3. No more kings

We have to stop big tech from restraining potential digital futures.

Big tech has created their own enshittified kingdoms, where digital innovators are coerced towards the endpoint of products and services that prey on our attention, time and personal data. Attempts by others to build genuinely novel and innovative alternatives that serve consumers are almost always doomed to fail due to the power of big tech. We cannot know how many alternative services could have existed if their anticompetitive practices were abolished, but we can at least stop them from restraining potential digital futures going forward.

Enforce competition law

Controlling both the infrastructure and service layers gives big tech companies enormous power. They can choose when to connect consumers and other companies, and set the terms and price. When they abuse their power over competitors, SMEs or start-ups, they need to face consequences.

DON'T FEAR THE (GATE)KEEPER

With the Digital Markets Act, the EU is taking steps to address some of big tech's abuses of dominance. Meta was recently hit with a formal antitrust investigation by the European Commission into its restrictions on third-party AI providers from offering services on WhatsApp.[196] Google can no longer require consumers to use Gmail to set up Google accounts.[197] Apple now allows consumers to choose their own default apps on its devices and is no longer allowed to prevent third-party app developers from informing consumers of alternative and cheaper offers available outside of the App Store.[198]

As we have described throughout this report, big tech companies limit and set terms and conditions for what types of services can be offered to consumers – and at what price. Some of them also engage in bundling, self-preferencing, and discriminating between third-party providers, which are all anti-competitive practices. Consequently, they can enshittify their own services and steer other companies to do the same.

To counter this, it is crucial that the DMA and competition law is enforced swiftly and vigorously, and with the real possibility of dissuasive reactions from the European Commission if gatekeepers do not comply. Under the DMA, this should include heavy fines, periodic penalties for continued non-compliance, and structural remedies in cases of persistent non-compliance.

THE FUTURE BEGINS NOW

The DMA is being used to tackle the problems of today but also needs to be flexible and adaptable if it is to continue to be a relevant tool in the future. This includes designating new services by gatekeepers as Core Platform Services under the DMA (such as cloud services and generative AI services). The Commission has already launched a market investigation to potentially designate cloud services as covered by the DMA.[199]

The DMA obligations should also be expanded to remain effective, including barring big tech companies from tying smaller services to their core platform services – for example when Google leverages its dominant market position in search engines to make consumers use its AI service Gemini.[200]

Competition authorities should continue to leverage behavioural remedies (e.g. when Google is required to ensure its platform is interoperable with all third-party app developers, and not just the ones of its own choosing).[201] However, competition authorities must also seriously consider whether the power and actions of big tech companies warrant the use of structural remedies. This would entail forcing companies to divest certain units, effectively severing the ties between the units.[202] The idea is to remove the incentive for anti-competitive practices entirely.

Today, big tech companies operate in markets where they have massive conflicts of interest, because they control the infrastructure while also competing against other companies that rely on their infrastructure. For example, companies such as Microsoft, Amazon, and Google control cloud compute infrastructure, where they can prioritise companies they invest in to give them an advantage over potential competitors.[203] Structural separation between the infrastructure layer and downstream services (such as AI or other nascent technologies) may be the only workable remedy to protect the market.

CLOUDY WITH A CHANCE OF PUBLIC UTILITY

The Open Markets Institute proposes regulating cloud services as public utilities, establishing regulatory regimes similar to those which apply to companies that provide electricity, financial services and telecommunications.[204] For example, this could be used to ensure cloud providers cannot use their control over infrastructure to discriminate between third parties.

Companies also sometimes control markets horizontally, by owning several services used for the same purpose. This is the case for Meta, who owns several social media platforms (Facebook and Instagram) as well as instant messaging services (Messenger and Whatsapp). MatchGroup has on its side bought twenty-five rival dating apps over the past decade, leading to heavy concentration in the dating app market.[205] The dating app conglomerate owns popular apps such as Hinge and Tinder. If consumers do not appreciate the policies of the app owner, they may therefore struggle to find truly independent and viable alternatives.

There are several ongoing court cases involving the potential break-up of big tech companies, but so far these attempts are failing[206] or have yet to materialise.[207] Breaking up big tech would be an important step towards a more level playing field by reducing their hold over different markets, both vertically and horizontally, and making it more realistic f or other companies to compete.

Breaking up big tech would be an important step towards a more level playing field.

LOOK AT THE FOREST, NOT ONLY THE TREES

Traditional competition tools are ex-post and focused on the abuse of market dominance by individual companies. The drives of enshittification cannot always be linked to one dominant company's abuse of its dominance. When enforcement relies on established harms rather than potential market disruptions, it will often also be too late – either because the digital market has already been skewed in big tech companies' favor or because big tech can argue that the case is no longer relevant.[208]

The New Competition Tool allows authorities to investigate more general market failures that could potentially lead to future lock-in effects and implement interim measures before any harms have materialised. It gives competition authorities more flexibility when it comes to which services and practices can be investigated, and would allow them to investigate some of the drivers of enshittification, such as lock-in effects. In Norway, Germany and the UK, competition authorities already have such powers. These powers should be extended to other authorities, including to the European Commission.

Strict merger control

Big tech does not only maintain autocratic rule over their kingdoms. They use the wealth they acquire to purchase alternative services and to expand or create new walled gardens.

Big tech companies are uniquely positioned to leverage their infrastructure and/or data to entrench their position in new markets.[209] Competition authorities should therefore be able to scrutinize every potential acquisition made by big tech companies.

Today, acquisitions cannot be investigated unless they reach a certain turnover threshold, which differs between jurisdictions. One of the thresholds for the European Commission to investigate a merger, for example, is that at least two of the companies must have a turnover of over 250 million euros (if the acquiring company has a turnover higher than 5000 million euros).[210] This effectively excludes most nascent competitors and innovators.

In practice, big tech companies can acquire other companies before they become big enough to warrant regulatory scrutiny. Competition authorities therefore need additional powers to protect digital markets. This includes call-in powers, which allow authorities to scrutinise deals below the thresholds of merger law when the deals can influence competition.

Given the dire state of competition in digital markets today, a precautionary approach to mergers and acquisitions is necessary and legitimate. Alternatives must be allowed to prosper, without being subverted through acquisitions.

A precautionary approach to mergers is necessary.

5.2. Beyond the gates

There is an ongoing discussion about the need for increased innovation in Europe.[211] One of the primary proposed measures is the so-called simplification of digital regulations, which is claimed to remove barriers to innovation. For example, the EU has recently proposed sweeping changes to its digital legislation. These proposed changes have been met with strong opposition from civil society, as they threaten to significantly reduce consumers' rights online and legitimise invasive and exploitative business models.[212]

OCEANS APART

Since the January 2025 inauguration, the Trump administration has withdrawn or halted one third of targeted investigations against technology companies in the US,[213] and Trump recently signed an executive order that allows federal government agencies to stop states from regulating AI.[214] The US is also increasingly putting political pressure on the EU to stop its enforcement and regulatory efforts, for example by threatening the EU with substantial tariffs and visa restrictions if the bloc upholds its digital rulebook against American big tech companies.[215]

Contrary to the measures proposed by the European Commission, we do not agree that regulation is preventing Europe from being innovative. Regulation and laws provide guardrails to guide innovation, as it has done in other markets such as with rules for food safety or seat belts in cars. As described throughout this report, the current situation of digital inertia is caused by the lack of enforcement of the laws already on the books, which means that big tech companies have been allowed to strangle attempts at innovation.

Rather than watering down consumers' rights, the EU should double down on the enforcement of competition law, the GDPR, the UCPD and the DMA, to create a level playing field for anyone who wants to provide services in the European market. It is no wonder that big tech companies consistently break our laws when even the biggest fines they receive amount to little more than "pocket change" when compared to the total annual revenues they amass based on the very same illegal practices. Fines are considered the cost of doing business, or as Proton calls it, "essentially licensing fees to continue abusive practices".[216]

THE SHORT ARM OF THE LAW

Meta introduced its highly controversial pay-or-okay in November 2023, requiring consumers to choose between paying to use Instagram and Facebook or allowing Meta to process their personal data for advertising.[217] The model has since been scrutinised by both data protection authorities under the GDPR and the European Commission under the DMA. In April 2025, the European Commission fined Meta 200 million euros for non-compliance but continued to engage with Meta to "ensure compliance with the Commission's decisions and the DMA".[218]

While 200 million euros may seem like a prohibitively large sum to most companies, it is only pocket money for Meta, which reported its revenues for the third quarter of 2025 to be approximately 43 550 million euros.[219] The European Commission did not introduce periodic penalties for Meta's continued non-compliance nor any other dissuasive reactions to stop Meta from continuing its practices, and in the meantime, consumers across Europe are suffering the consequences daily.

We will need stronger reactions from enforcement authorities going forward, if big tech companies are to consider breaking our laws more than the cost of doing business. This could include fines, structural remedies, or model disgorgement.[220]

The EU still has its digital rulebook, and even in the US, there has recently been bipartisan consensus for the need to address harms caused by the monopolisation of digital services.[221] The EU and US both have a lot to gain from resetting competition in digital markets, to avoid further enshittification of consumer services. This necessitates establishing a level playing field online, by actively enforcing existing laws as is, funding alternative services so they can get off the ground and compete, and rebalancing power in favor of consumers.

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