

THE MIXED FEELINGS OF PRIVACY

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blindnet

Only the paradox comes anywhere near to comprehending the fullness of life
~ Carl Jung

THE PRIVACY PARADOX

Do you want privacy?

- Yes.

Do you use online services that put your privacy in danger?

- Yes.

It is easy to dismiss privacy concerns when the actual behavior and choices users make online indicates that they don't care.

Scientists love to look behind such appearances to try and uncover the truth. For more than two decades, scientists have been speaking about the Privacy Paradox.

The Privacy Paradox is a phenomenon in which online users state that they are concerned about their privacy but behave as if they were not. [3] Anecdotal and empirical evidence indicate that individuals are willing to trade their personal information for relatively small rewards [10].

Why is that? In this white paper we explore theory and practice of privacy-related behavior on the internet in order to find out. We present the findings of our user study involving more than 100 internet users.

Is the appreciation of the importance of privacy genuine? Or are people just pretending to care? Are there strong barriers to obtaining privacy in the online world? Or have we, by now, just learned that privacy is something we can't get online?

Let's dive in!

SOME BASICS

Before we go any deeper, let us take a brief look at the basic concepts behind the Privacy Paradox.

The Attitude-behavior Gap

It is not at all that uncommon for people to behave in ways contrary to their values. The attitude-behavior gap is a well-known phenomenon in social psychology. In theory attitudes are known to influence behavior [8]. In practice, researchers found examples of value-action gap in many areas of life. Environment-conscious action is a famous example where pro-environment attitudes rarely lead people to take environmental actions which involve changes to their lifestyle [11].

A buyer with an attitude towards preserving the environment may end up in a situation to have to balance this preference with another equally strong positive attitude towards a particular brand. When economic constraints are factored in, the resulting behavior may indeed appear counter-intuitive.

The Privacy Paradox is a form of attitude-behavior gap.

Trade-off and Power Differential

Withdrawal from others is ubiquitous in the animal kingdom [9]. Social species benefit from being in a group to mutualize certain functions. However, they also compete over scarce resources that more powerful group members are predisposed to take. Privacy, in such societies, arises from the need to counter-balance the power differential. Individual's privacy serves to create an information asymmetry. By increasing another individual's misinformation about the environment, an animal may increase its own fitness.

Humans are social animals too. Privacy is a survival need.

Barriers and Consequences

Despite a positive attitude towards privacy, in reality privacy-related behavior meets constraints such as technical limitations, psychological distortions or inability to accurately assess the consequences of a particular choice in a highly technical internet environment [1].

Social pressure can also play in favor of a person making a choice contrary to its privacy needs.

The consequences of the lack of privacy can be very important. Compelling animals to remain in contact contrary to their own privacy inclinations, in laboratory settings, has resulted in physiological changes, reproductive failure and adrenal dysfunction [9]. In human studies, inability to obtain privacy has shown important psychological consequences ranging from embarrassment and stigma to deindividuation and dehumanization [12].

OUR RESEARCH

USERS LINK PRIVACY WITH TRUST

In the qualitative part of our study – interviews – **trust** has emerged as a key concept in relation to **privacy**. Looking at the definitions of privacy and trust taken from the academic literature, there is no reason for surprise.

“Privacy is the selective control of access to the self” *Irwin Altman*

“Trust is choosing to make something important to you vulnerable to the actions of someone else”— *Charles Feldman*

In online interaction, the user is clearly exposing something very important – the self – to the actions of other users, companies and even software systems.

During interviews, the users told us about clearly distinct experiences leading them to trust or distrust an online service/website/application. And the presence or absence of trust was associated with clearly distinct behavior. As if there were two different worlds where different sets of rules applied.

Where trust was present, giving personal data felt purposeful.

Where trust was absent, users felt powerless, anxious, and giving data felt like a sacrifice or trade.

We ran a quantitative user study to inspect for concrete situations in which trust is gained and lost.

Let's deep-dive!

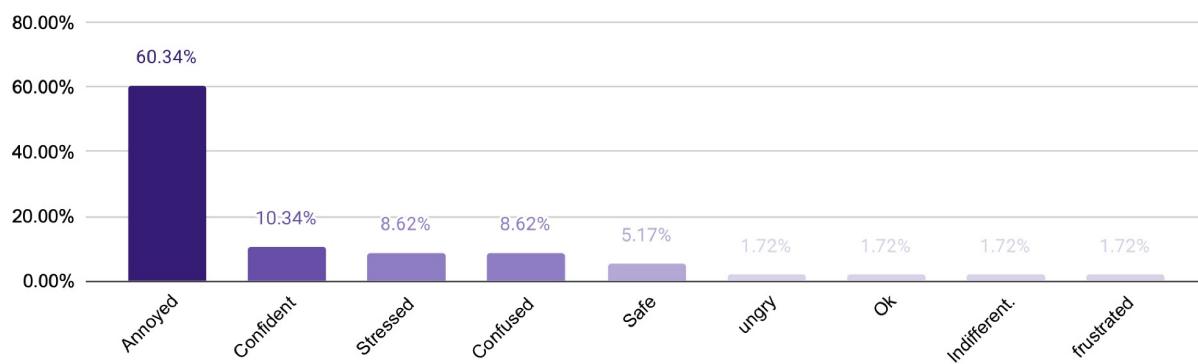
Cookie Consent May Be a Lost Opportunity for Trust

Ever since it became mandatory to obtain users' consent before placing a cookie in their browser, it became very popular to design the consent form in such a way to make the "I accept" button more attractive and nudge the users into consent.

Cookies are prevalent on the Web and finding a website that operates without them is almost impossible nowadays. Yet only 1,72% of users find the practice of nudging them to accept cookies acceptable.

60,34% of users feel annoyed when nudged to accept cookies.

When presented with options regarding cookies and I am being nudged to a particular consent choice option, I tend to feel :



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This particular feeling is a mental state characterized by irritation and can lead to frustration and anger. Yet the guiding principle behind the design of websites, especially those made to guide the user towards an economic transaction, is to maximize the feeling of safety and trust – a goal from which the irritation can only deter.

On The Internet You're a Bad Guy Until Proven Otherwise

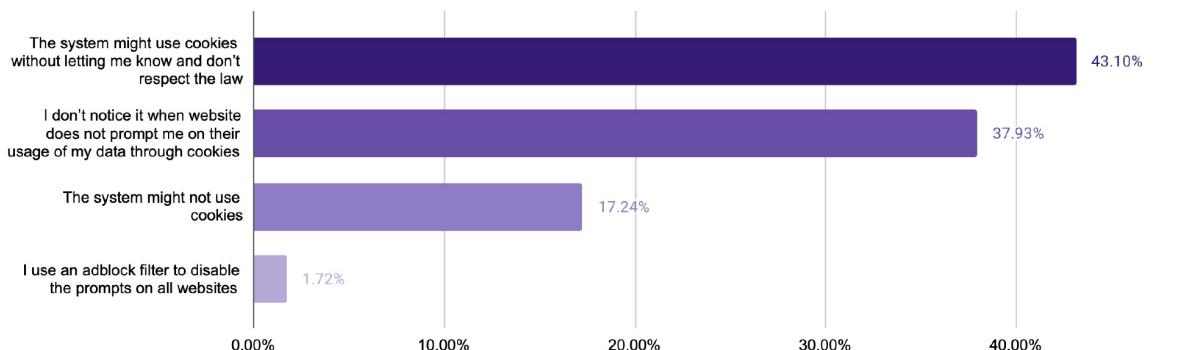
Cookies have a bad reputation. Not only synonymous for tracking and all things anti-privacy, but the cookie consent dialog boxes, made mandatory by GDPR, interrupt the user's navigation behavior and yield sub-optimal user experience.

As a result, more elegant, privacy-first solutions are emerging, such as cookie-free alternatives to Google Analytics.

Websites not using cookies might get away without having to prompt the user for consent. Yet in such situations, only 17,24% of users would associate the absence of a consent dialog box with the actual absence of the use of cookies.

Most of the users would assume such websites simply use cookies, but don't respect the legal obligations related to cookie consent.

When website does not prompt me on their usage of my data through cookies, I tend to think :



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It seems that choosing privacy-first solutions is not enough to gain users' trust. One must also brag about it.

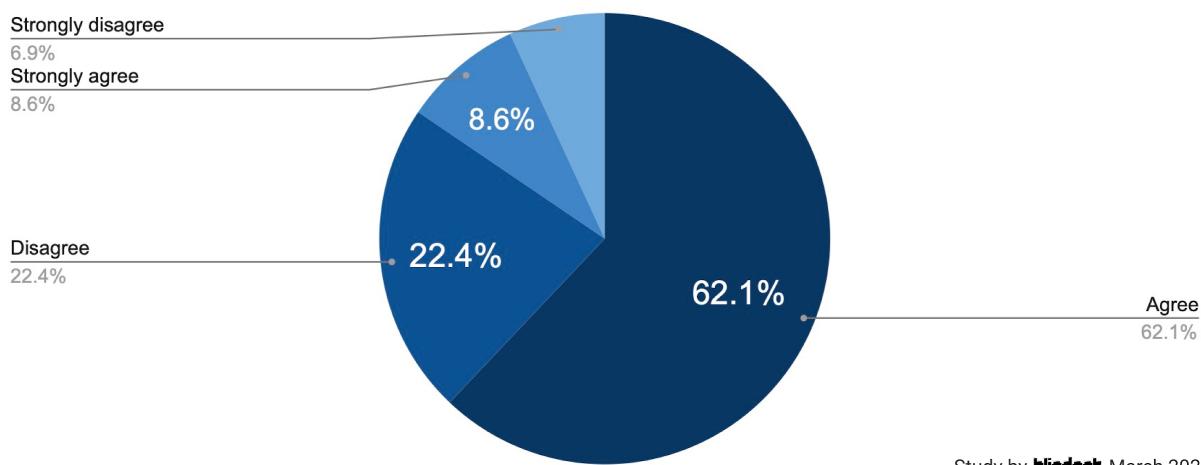
Transparency About Data Usage Both Reassures and Irritates

Even in the animal kingdom, privacy is linked to **power differential** and **information asymmetry** [9]. An individual creates information asymmetry in order to protect its vital interests and resources from competing members of the group.

On the internet, when a user wants to interact with an online service, a similar information asymmetry negotiation is at play. In order for the power differential between the user and the service to get in sufficient balance for a transaction/interaction to happen, the user will seek to disclose the minimal information, and at the same time seek to obtain maximum transparency from the service about what the service will do with the data. This balancing is known as the Minimal Information Asymmetry [14] pattern.

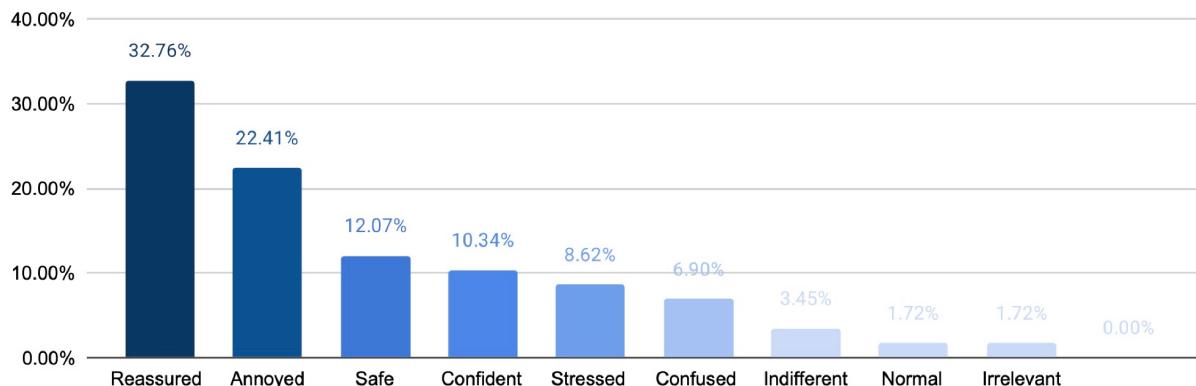
It doesn't surprise that a large majority of users that participated in our study (62,1%) feel reassured when the system is transparent about how they are addressing mandatory legal regulations.

I feel safe sharing my personal data when the system (website or application) clearly states how they address mandatory data regulations :



However, at the same time, explanations about the data usage given by software systems to the users are a source of both reassurance (32,76%) and annoyance (22,41%).

When the system (website or application) gives me an explanation about my data usage, I tend to feel :



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These mixed feelings are consistent with feelings one might experience during the discomfort of a negotiation. There is no such thing as a comfortable negotiation. And indeed, when the user is confronted with a possibility to use an online service, a trade-off between the need for that service and the need for privacy is being negotiated.

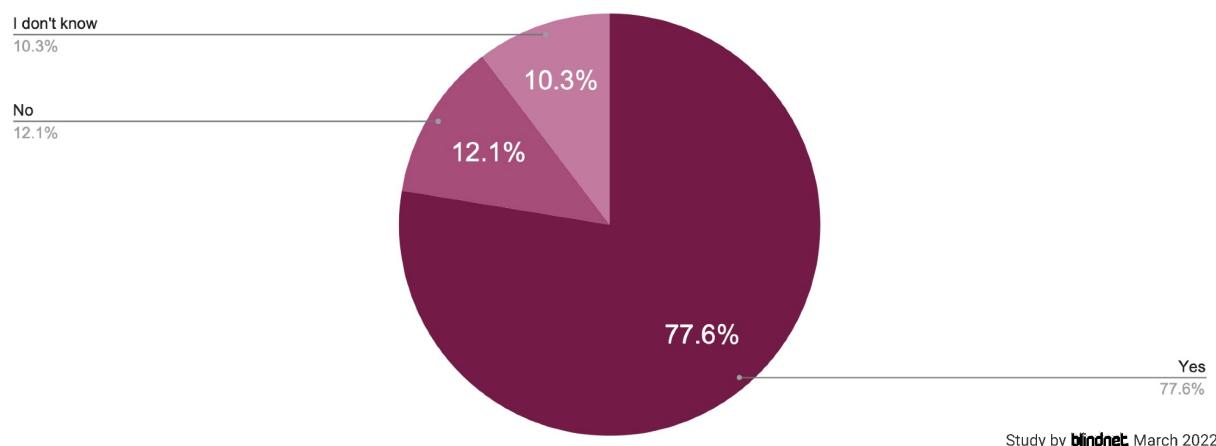
Others found it too - Transparency of data usage is important

In their study from 2021, done with 2600 participants, Cisco reports on the importance of transparency about data usage. When users felt unable to “effectively protect [their] personal data”, 76% gave as a reason “Too hard to figure out what companies are doing with my data”[5]. Pew research found similar results: 59% of users lacked understanding about the use companies’ made of their data [13].

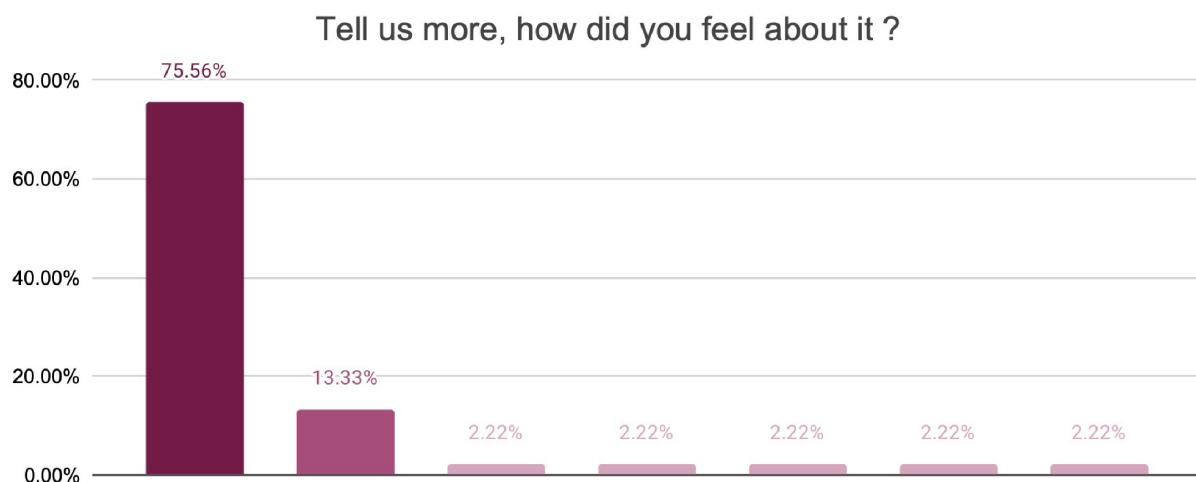
It is Irritating and Stressful to Realize that the Service We Need is the one We don't Trust

Give us convenience, competitive price, time-efficiency and we might give you our personal data even if we don't trust you. 77,6% of users in our study say that they have done that. Those findings are consistent with academic research indicating that individuals are willing to trade their personal information for relatively small rewards [10].

It happened that I shared my personal data with a system I don't trust because I need the service and I can't find a better alternative (regarding convenience, time consumption, price, competition...):



We are doing it, but it is irritating and stressful. 75,56% of users felt annoyed when they gave their personal information to a website or service they didn't trust.

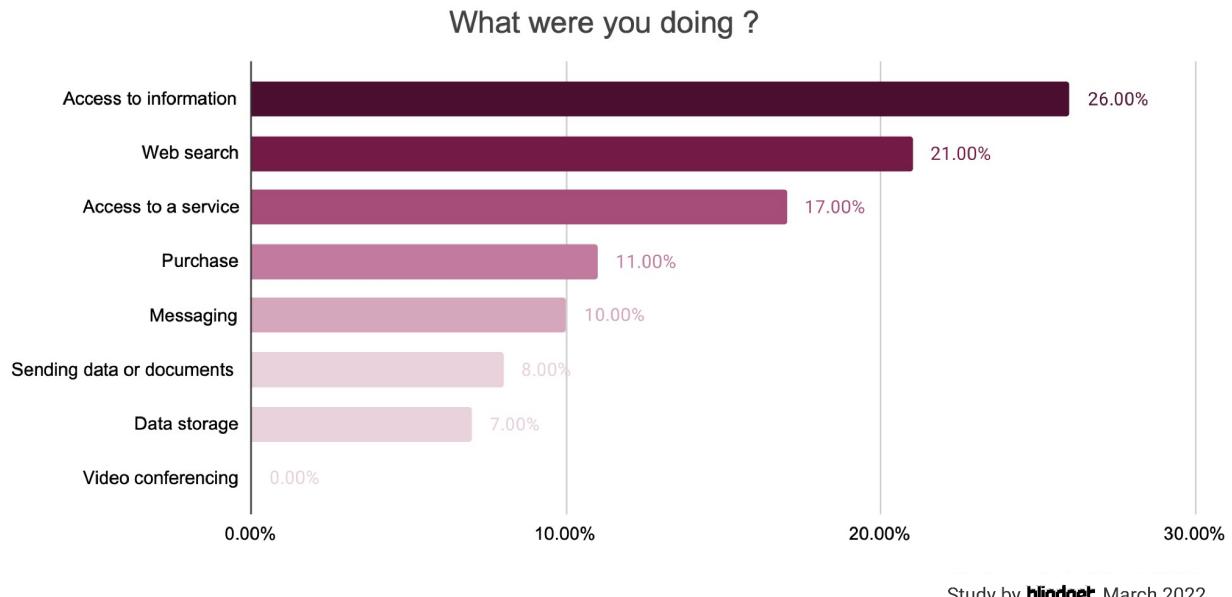


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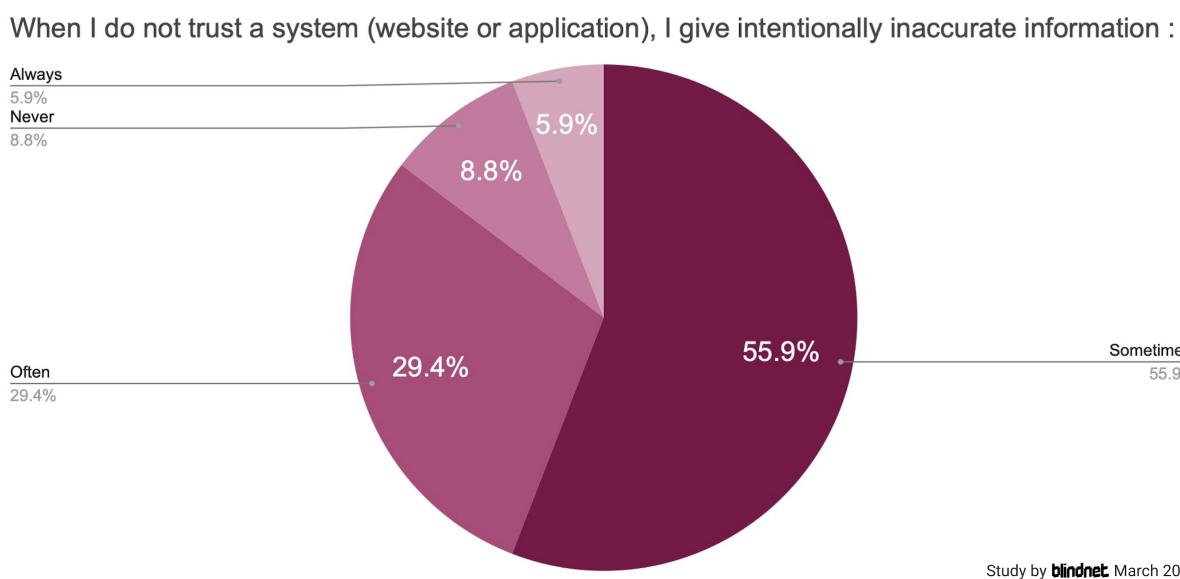
This behavior, central to the privacy paradox, is however nuanced. Users report having made this trade-off much more often while accessing information or in the context of web search, and much

less often in the context of communications with other users such as messaging, video-conferencing or sending data/documents.

This nuance is consistent with the theory of Privacy Calculus suggesting that online users' disclosures are a result of balancing the risks of their disclosures with the gratifications gained [6].

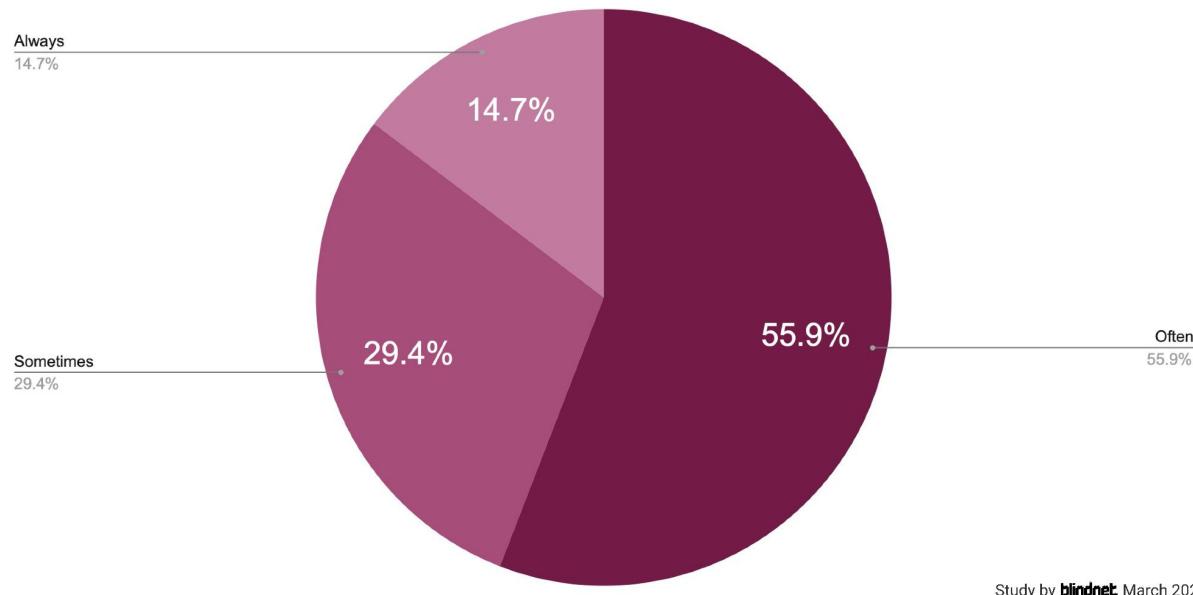


Facing such a trade-off, the majority (55,9%) of users admit having turned to the coping strategy of intentionally providing false information to the system they chose to use despite the lack of trust.



Asking for too much information may also prove to be a risky strategy for the website or application not enjoying users' trust. The same majority of users declares having abandoned an interaction with the system when additional personal information was asked for.

I decide to leave a website when I am asked for additional personal information :



Others found it too - Risks of Data Collection Outweigh the Benefits

Pew Internet Research found, in their 2019 study [13], a similar phenomenon that we observed - users trapped in a feeling that using an online system and having their data collected, gets them overly exposed and vulnerable. 81% of their study participants declare that potential risks of companies collecting data about them outweigh the benefits.

Keeping Users' Data Confidential is The Key Factor of Gaining Their Trust

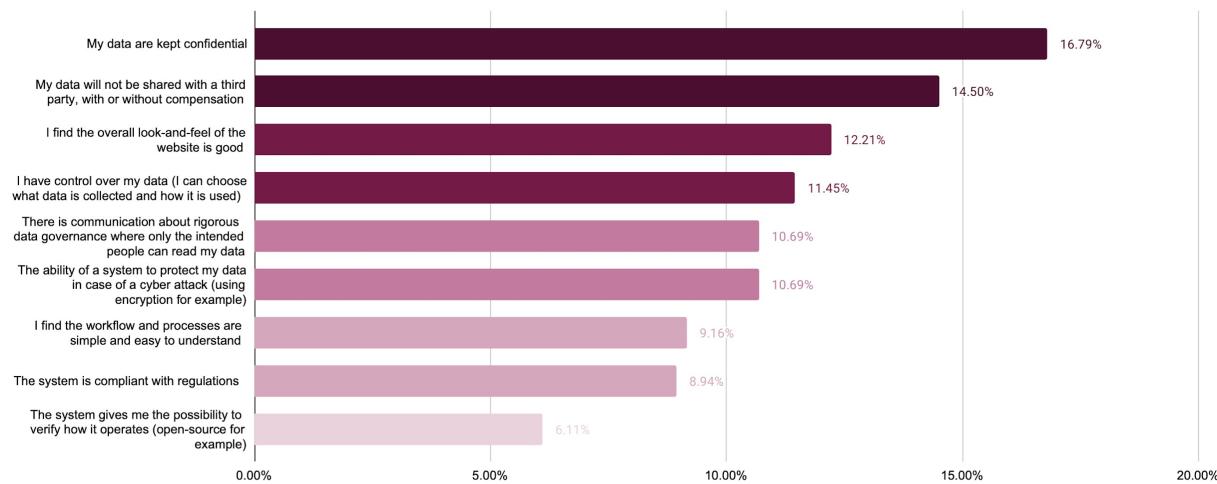
In the context of the natural power differential between the user and an internet system (website or application) distrust is a default. Many factors contribute to building users' trust, and we inquired about which ones are perceived as more important.

"Keeping data confidential" and "knowing it won't be shared with a third party" naturally stand out at the top of the list. However, less obviously, they are followed by the "overall look and feel of the website/application".

During qualitative interviews we have observed a prevalent attitude correlating the "overall look and feel" with the perception of overall quality behind the service and care put into making it. When asked to explain further, users seem to imply that a nicely-looking, modern website costs a lot to make and is indicative of effort and attention towards them.

This perceived attention towards them contributes to an overall sense of safety.

What contributes the most to you being able to trust a system (website or application)?



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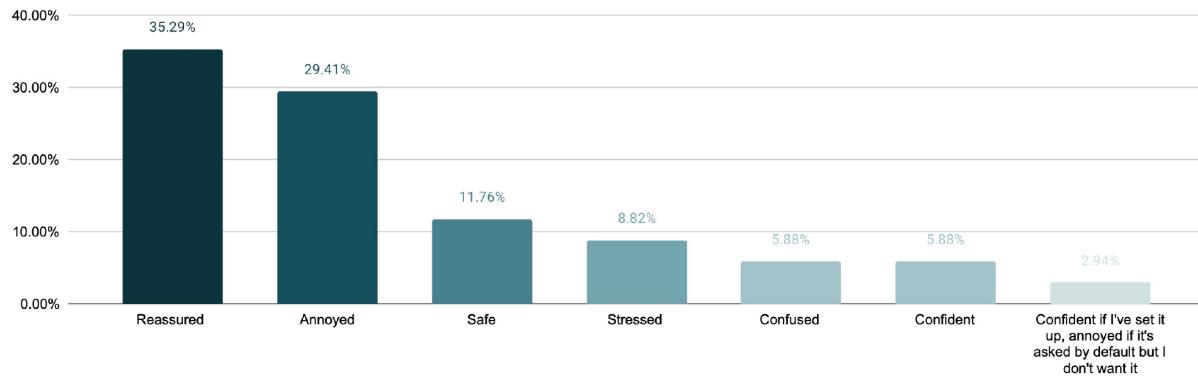
It's Reassuring and Annoying to Go Through One More Interaction Step for The Sake of Security

There is a familiar pattern of mixed feelings of reassurance and annoyance. We've seen it when talking about transparency around the purpose of collecting users' data. And now we are seeing it again.

It is more and more common for systems to ask users to perform an additional verification step (answer a secret question, enter a temporary code, etc.) in order to access an online service. This practice breaks the natural flow of the user experience and we expected users to report frustration.

Gaining safety at a cost of convenience clearly creates discomfort. Feelings of reassurance and annoyance dominate the chart.

When websites or applications use additional security measures resulting in several identification verification steps in a process (e.g. asking for verification codes, asking for additional personal information, 2-Factor Authentication...) I tend to feel :

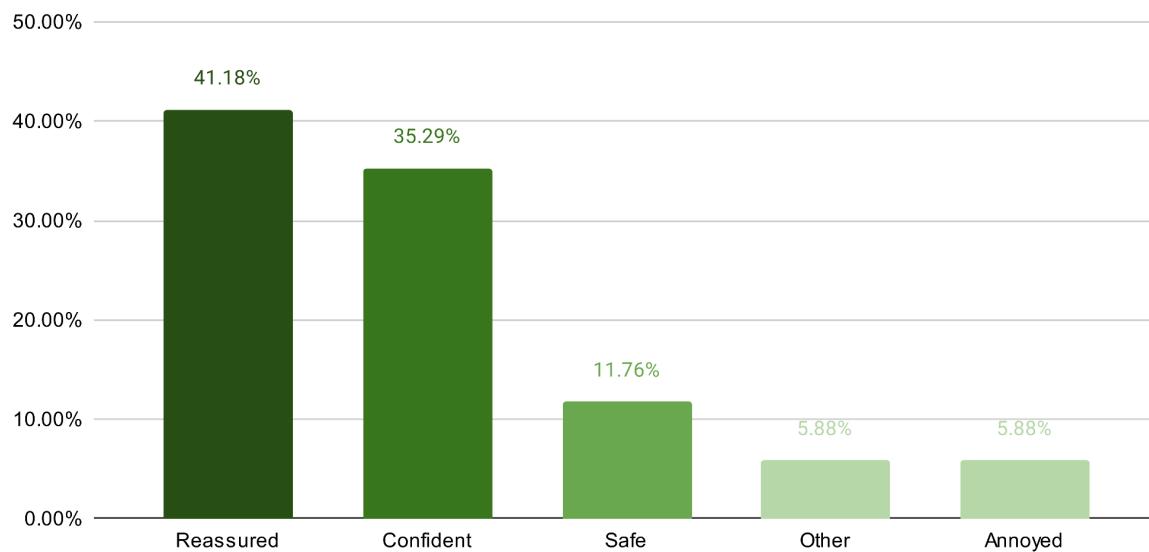


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Encryption Makes Users Feel Reassured, Confident and Safe

50% of users report having used a system claiming that their data was encrypted. 88.23% of them felt either reassured or confident or safe.

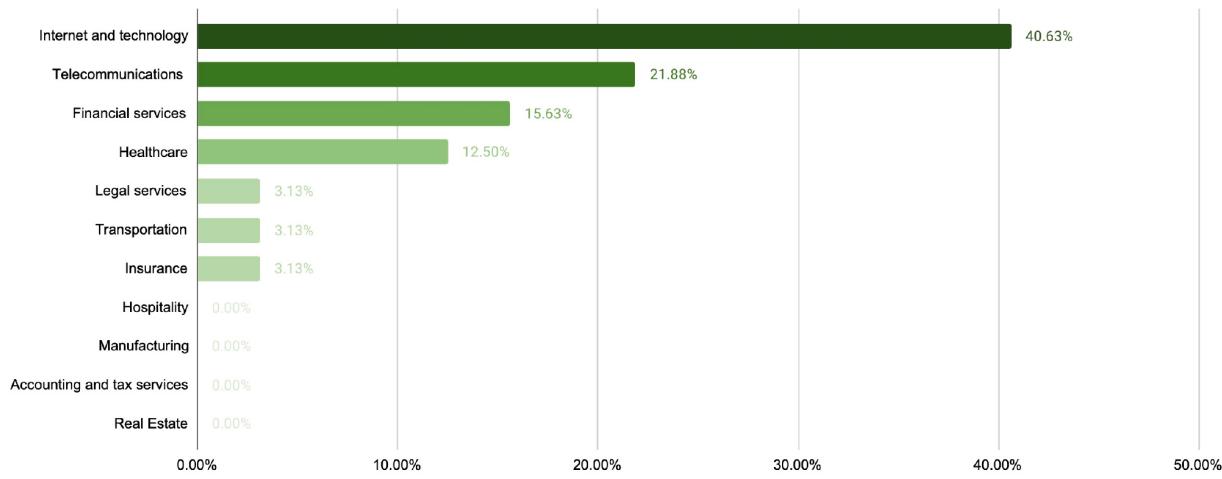
How did you feel about the encryption of your data?



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This happened in the context of messaging, sending data/documents, and videoconferencing. These contexts of use are consistent with those where users reported being less likely to provide their data to a service they don't trust.

What was the industry of that system?



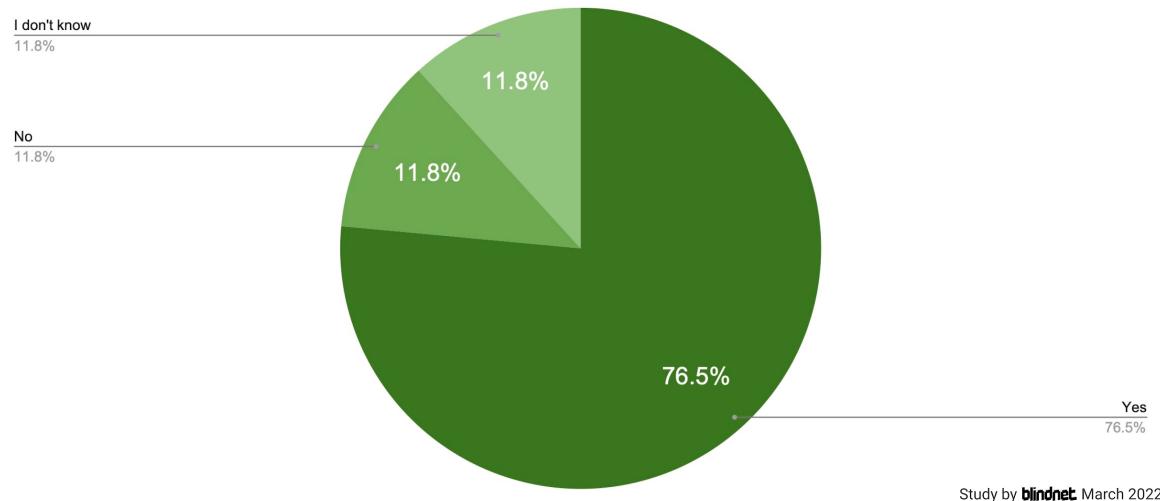
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Highly Expected by Users, Encryption is Yet to Become Ubiquitous

Interestingly, 76,5% of users report having expected the encryption of their data to be performed by a service.

Were you expecting the encryption of your data?

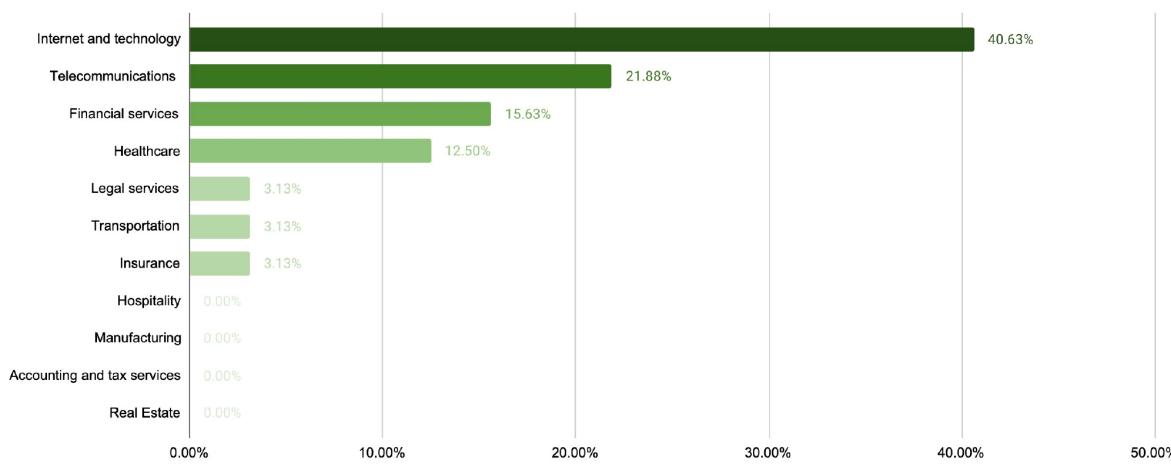
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When inquired about the industry of the system that offered encryption, the answers reveal great disparities. Legal services, healthcare and financial services clearly still have a margin for improvement to meet this, more and more mainstream, expectation.

It is particularly interesting to see the legal services so far behind, knowing that confidentiality is a key obligation of legal professionals across the globe and that the sector is undergoing rapid digitalization with the recent rise of LegalTech.

What was the industry of that system?



CONCLUSIONS

Towards a Generalized Depression...

Privacy traces its origins in the need of social animals to achieve balance. On one hand, life in a group offers advantages. On the other hand, the perfect information about its strengths and weaknesses might disadvantage the individual in the competition for scarce resources.

For a particular social animal, the human, the internet has greatly amplified the advantages of social life but has made the balance even harder to reach.

For at least two decades scientists have observed humans in the privacy paradox: they claim to want privacy but end up in activities that endanger their privacy.

The internet is an environment that acutely lacks technical means for users to achieve both connection and privacy. Studies in animals and humans associate the failure to achieve privacy with physiological and psychological pathologies.

We are witnessing the emergence of **privacy fatigue** - a sense of weariness toward privacy issues, in which individuals believe that there is no effective means of managing their personal information on the internet.

Privacy fatigue resembles a more general phenomenon of **learned helplessness**. Repeatedly exposed to the inability to overcome an aversive stimulus, an individual learns to be helpless and even when means to overcome the adversity become available remains unable to act.

Have we learned to be helpless about our privacy on the internet? When better tools appear, will we be able to use them? Or will we, collectively, slide into consequences of our learned helplessness: low self-esteem, chronic failure, sadness, and physical illness?

... Or Towards a Better World

The internet is here to stay. Our need for privacy too.

At blindnet, we see the world shifting towards new software development practices.

To engage users, software systems must inspire trust. Our research shows that trust and privacy go hand in hand. Both emerge directly from the design of software systems, the ways in which they are made and the functionalities they provide.

Join us in making privacy-first software systems.

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GLOSSARY

Attitude-behavior Gap – a phenomenon in which attitudes of an individual do not correlate to their actions.

GDPR - General Data Protection Regulation in European Union

Information Asymmetry – a situation in which one party has more or better information than the other.

Learned Helplessness – a mental state in which an organism forced to bear aversive stimuli, becomes unable or unwilling to avoid subsequent encounters with those stimuli, even if they are “escapable,” presumably because it has learned that it cannot control the situation. [15]

Power Differential – a situation in which two or more parties have unequal power.

Privacy – selective control of access to the self. [2]

Privacy Calculus – a theory suggesting that online users’ disclosures are a result of balancing the risks of their disclosures with the gratifications gained. [6]

Privacy Fatigue - a sense of weariness toward privacy issues, in which individuals believe that there is no effective means of managing their personal information on the internet. [4]

Privacy Paradox - a phenomenon in which online users state that they are concerned about their privacy but behave as if they were not. [3]

Trust - choosing to make something important to you vulnerable to the actions of someone else. [7]

METHODOLOGY

We conducted user research, involving more than 100 users – a sample representative of the average internet user, over the course of six months from November 2021 to March 2022, using multiple qualitative and quantitative research techniques. We first conducted 1 hour long critical incident interviews, which we analyzed using the Grounded Theory approach. We then ran quantitative questionnaires to deep-dive on particular questions.

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