

Thou Shalt Not Reject

Analyzing Accept-Or-Pay Cookie Banners on the Web

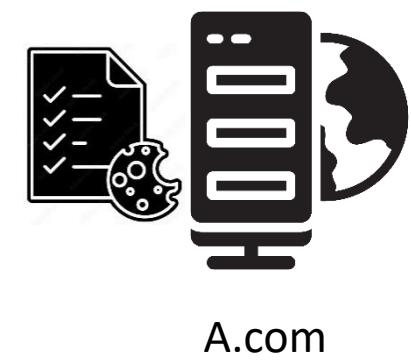
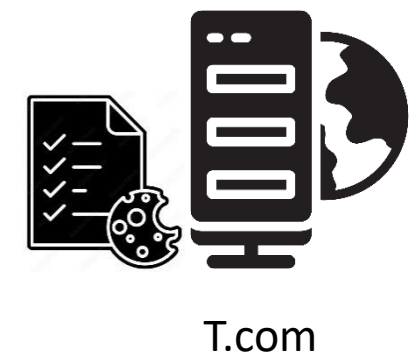
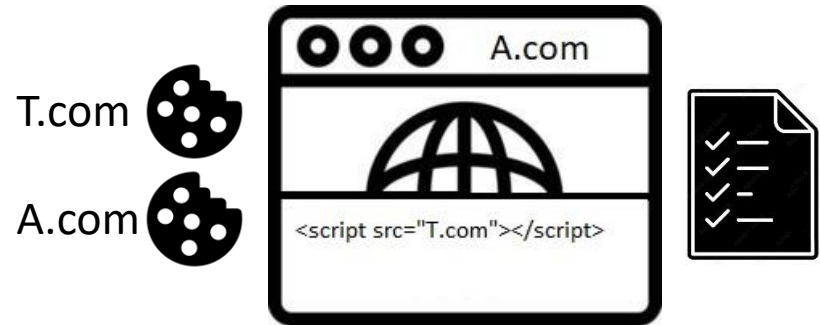
Ali Rasaii

Devashish Gosain

Oliver Gasser



ACM
Internet
Measurement
Conference
2023





Background

- General Data Protection Regulation (GDPR)
 - EU regulation
 - Enacted on May 25, 2018
 - Enhance individuals' control and rights over their personal data
- California Consumer Privacy Act (CCPA)
 - California State law
 - Enacted on January 1, 2020
- Enterprises and vendors react
 - Cookies banners



Cookie Banners

- Data collection is source of income
- Different banner appearances
- Cookie paywall: accept-or-pay

Privacy settings

Please manage your cookie choices by switching the consent toggles on or off under the Purposes listed below. These cookies

How would you like to access Gentside?

With advertising and cookies

I agree to the use of cookies for web analysis and personalised advertising (tracking). Details can be found in the privacy manager and in our privacy policy.

I agree

Your consent can be revoked at any time via the privacy link at the bottom of each page.

With subscription

Use Gentside without tracking, external banners and video advertising as a subscriber to our website for €1.99 / month.

Subscribe now

On advertising and cookies: We and our partners use cookies to optimise and continuously improve our website for you and to display news, articles and advertisements. By clicking on the "Accept" button, you consent to this processing of data stored on your device, such as personal identifiers or IP addresses, for these processing purposes. Furthermore, in accordance with Article 49 (1) DSGVO, you consent to providers outside the EU, e.g. in the USA, also processing your data. In this case, it is possible that the transmitted data will be processed by the authorities there.

Purposes of processing

- ▶ Store and/or access information on a device
- ▶ Precise geolocation data, and identification through device scanning

Användning av cookies

På Göteborgs universitet använder vi kakor (cookies) för att våra sajter ska fungera så bra som möjligt för dig. Genom att klicka på "Acceptera cookies" godkänner du att vi sparar cookies. Du kan också avaktivera cookies för analys och marknadsföring. Men för att inbakade videoklipp ska fungera korrekt så måste analys- och marknadsföringscookies på våra sajter för marknadsföring är aktiva. [Läs mer om cookies](#)

Nödmandiga
 Analys
 Marknadsföring

Acceptera cookies

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Large-scale measurement on cookie paywall landscape and its characteristics

Cookie Paywall Detection

- Using BannerClick
 - Detect and interact with cookie banner
- Cookie paywall module
 - Subscription-related words: “abo”, “abonnet”, “abbor
 - Currency words and symbols: EUR, USD, CHF, AUD, GB
 - Payment-related combination: \$3.99, 3.99\$
- Detection accuracy
 - 1000 random websites: 100%
 - 285 websites with detected cookie paywall: 98%

Exploring the Cookieverse: A Multi-Perspective Analysis of Web Cookies

Ali Rasaii¹, Shivani Singh², Devashish Gosain^{1,3}, and Oliver Gasser¹



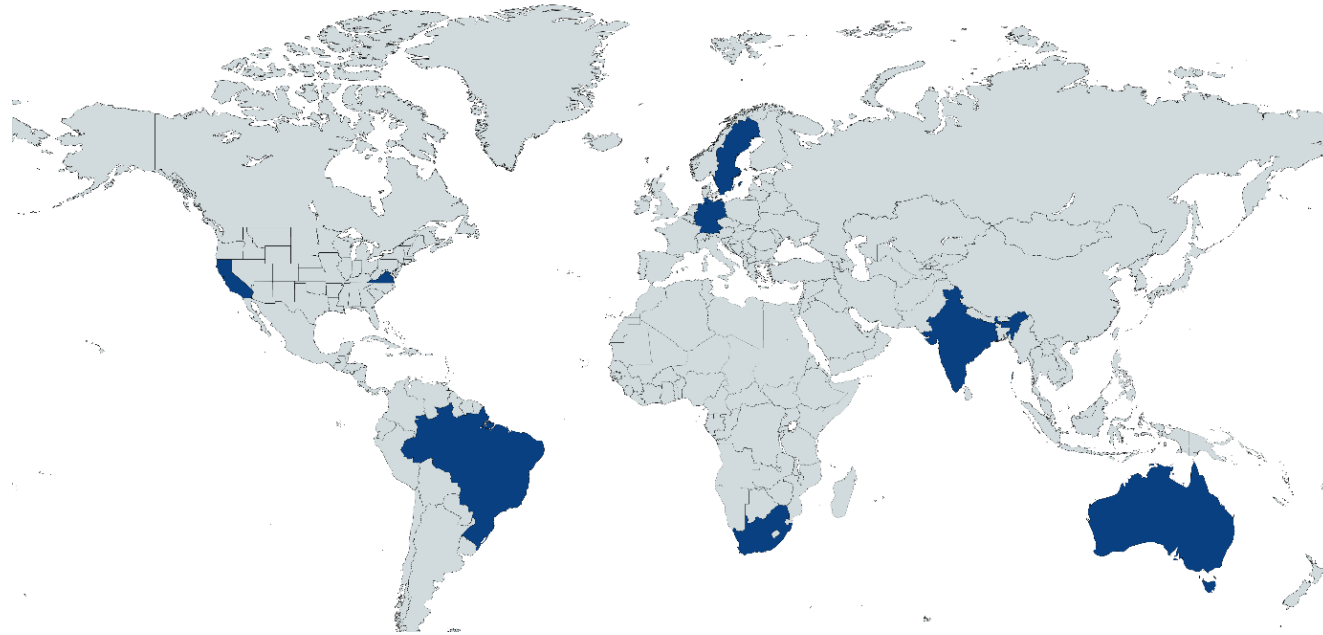
We use cookies to make your interactions with our website more meaningful. They help us better understand how our websites are used, so we can tailor content for you. For more information about the different cookies we are using, read the [Privacy Statement](#). To change your cookie settings and preferences, click the Cookie Consent Manager button.

REJECT ALL COOKIES

ACCEPT ALL COOKIES

COOKIE CONSENT MANAGER

Measurement Setup



- **8 vantage points:** Germany, Sweden, US West, US East, India, Brazil, South Africa, Australia
- **Target list:** Google CrUX top 10k domains for each VP country → 45,222 unique reachable domains

Detected Cookie Paywall Websites

VP	Cookiewalls
US East	197
US West	199
Brazil	196
Germany	280
Sweden	276
South Africa	199
India	192
Australia	190

280 cookiewalls

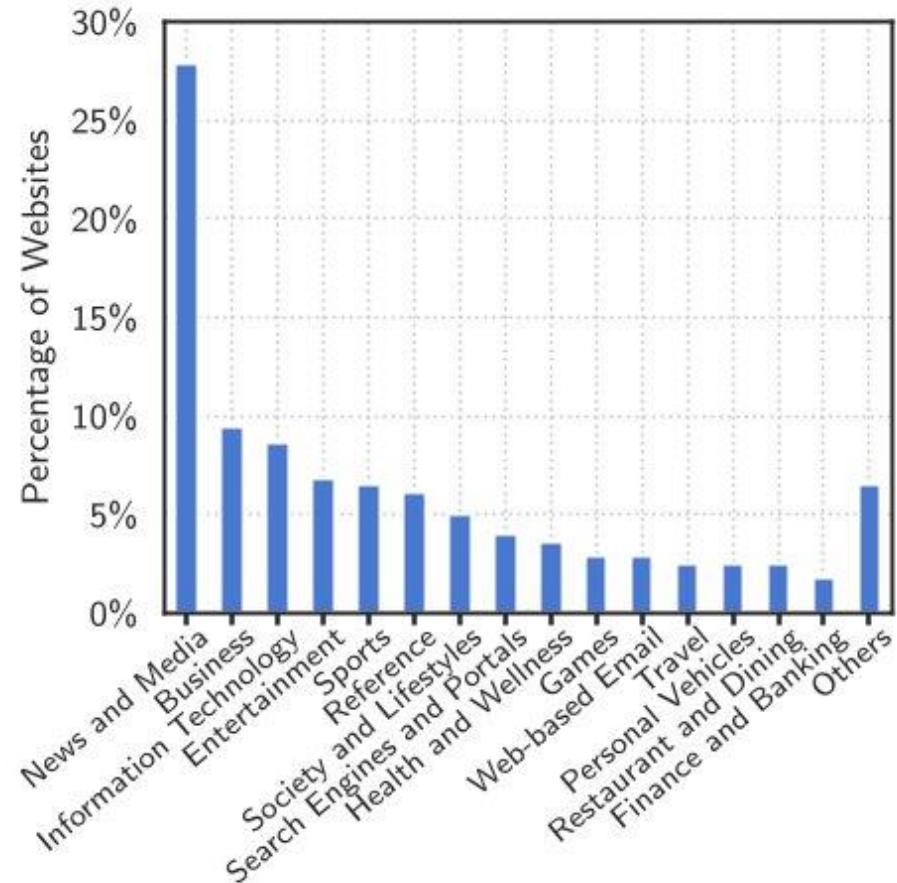
- 76 ShadowDOM
- 132 iFrame
- 72 main HTML DOM
- 233 websites with .de TLD

Cookie paywalls are most prevalent on .de websites

Cookie Paywall Website Categories

Methodology:

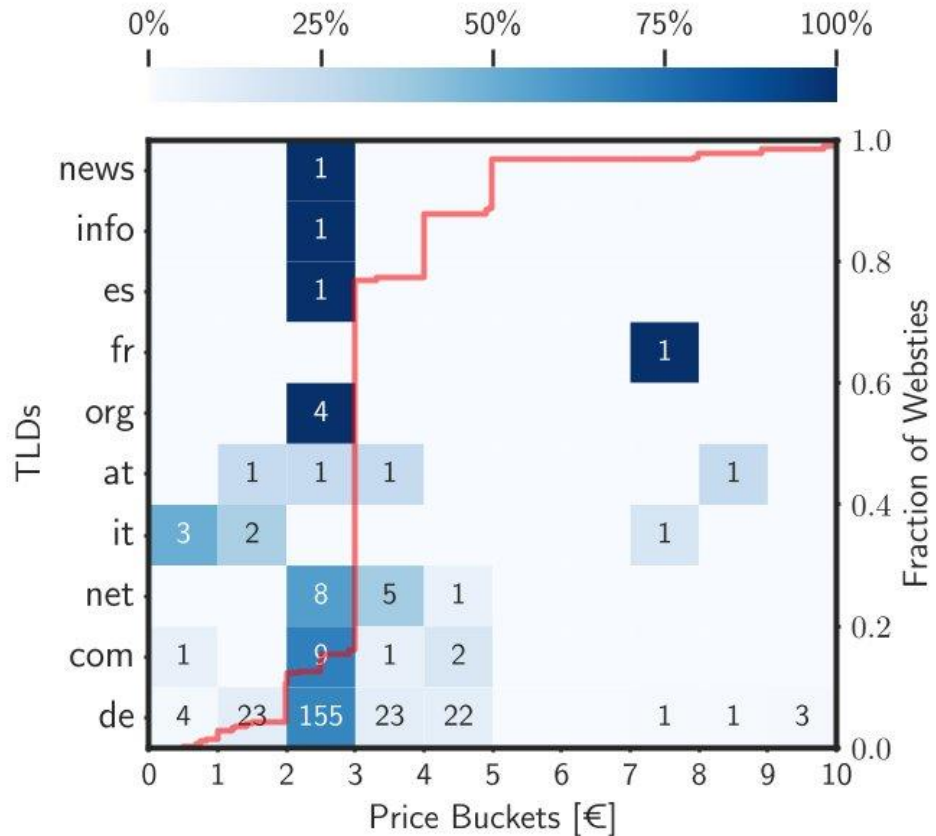
Use FortiGuard's Web filter database to categorize the websites



Cookiewalls are deployed on a large variety of different website categories

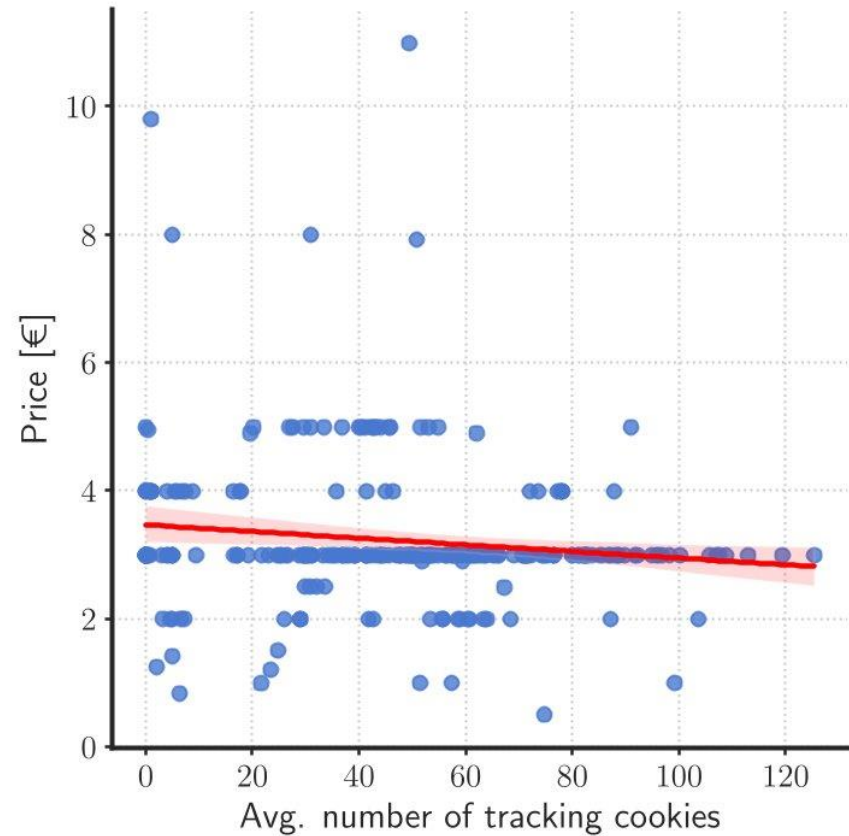
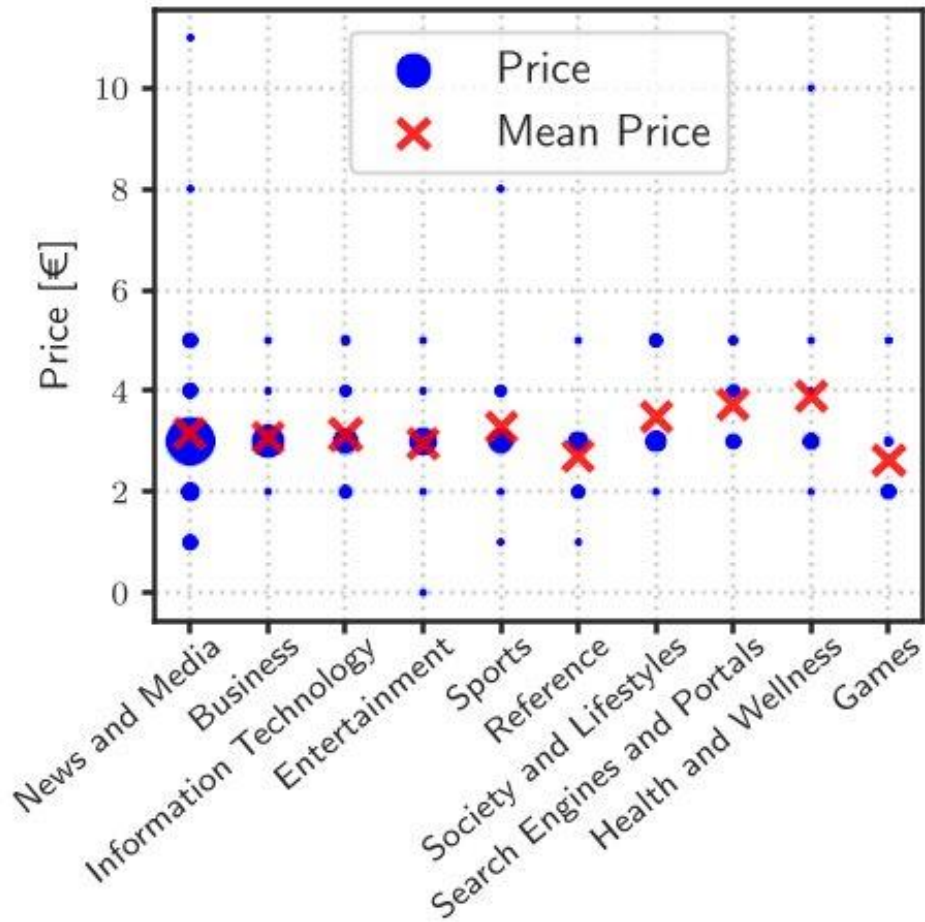
Cookie Paywall Subscription Prices

Majority of subscriptions cost less than 3 Euro per month



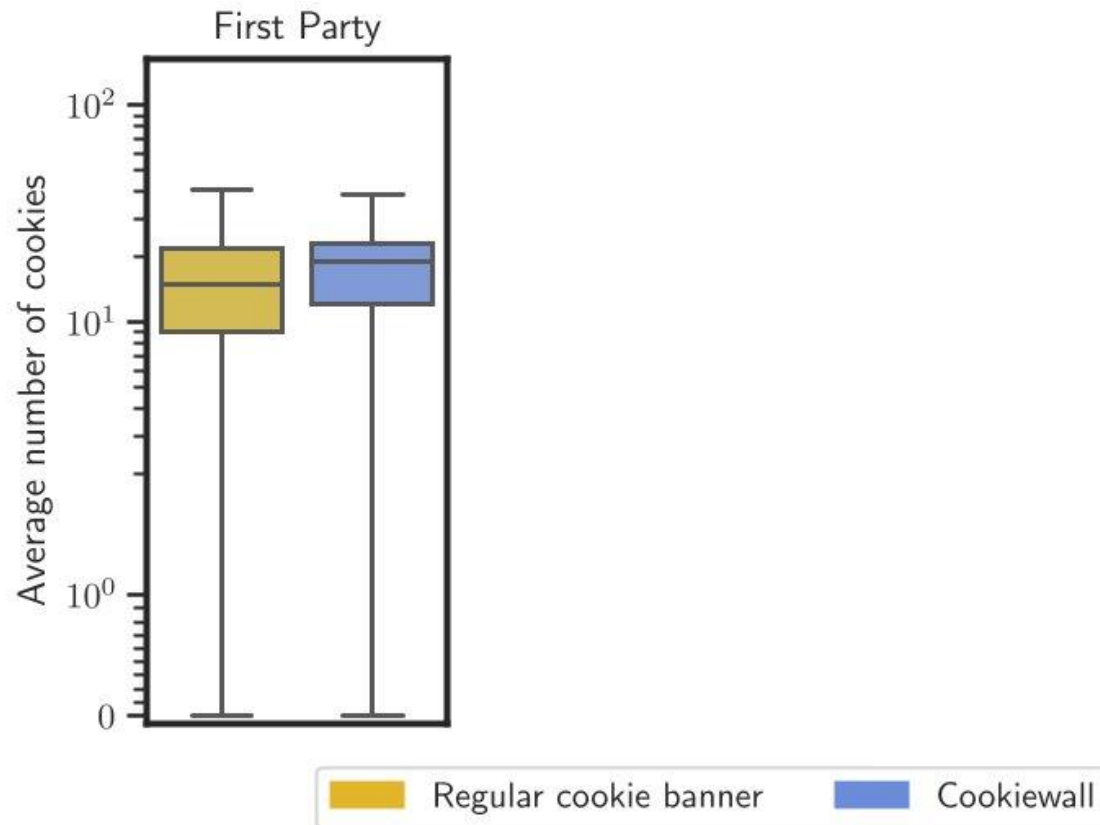
TLDs of websites do not have a substantial impact on the prices

Cookie Paywall Price Correlations



No relation between subscription price and website category or number of tracking cookies

Cookie Paywalls vs. Cookie Banners



Cookie paywall websites set many more cookies compared to those with regular banners

Accept vs. Subscribe for Cookie Paywalls

- Subscription Management Platforms for cookie paywalls
- Ad-free access to all partner websites with a single monthly subscription
- Contentpass case-study with 219 partnered websites

The screenshot shows the Plantopedia website with a cookie consent dialog. The dialog has a green header "Consent to Cookies & Data processing" and a green button "Accept all". To the right, there is a green button "Ad-free for 2.99 € / month". Below the dialog, there are three sliders representing different tracking options. The first two sliders are white, and the third slider is yellow, indicating it is set to "Accept". A legend at the bottom shows a yellow box for "Accept" and a blue box for "Subscription".

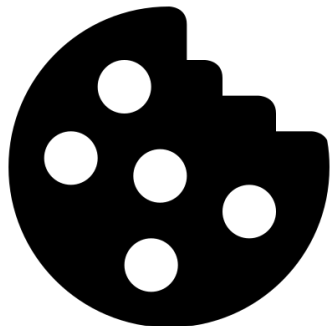
Subscription effectively stops tracking



Discussion & Conclusion

Discussion

- Yet another way to monetize users
- Two classes of Web users
- No harmonized position on cookie paywalls by data protection authorities
- Can lead to extortion-like behavior of websites



<https://bannerclick.github.io>

Conclusion

- Prevalent on German websites
- Analyzed category, prices, correlations
- More tracking compared to regular banners
- Subscription stops tracking

