Strategies for cookieless online marketing

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In this thesis we will evaluate strategies to place meaningful advertisment in a DS-GVO compliant way and without using (tracking) cookies, with an emphasis on technical and legal aspects.



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List of Abbreviations

ΑΡΑ	American Psychological Association
ССРА	California Consumer Privacy Act
DMA	Digital Markets Act
DS-GVO	Datenschutz-Grundverordnung
DSA	Digital Services Act
EFF	Electronic Frontier Foundation
EuGH	Gerichtshof der Europäischen Union
FLoC	Federated Learning of Cohorts
GDPR	General Data Protection Regulation
IDFA	ID for Advertising
IPCC	Intergovernmental Panel on Climate Change
КРІ	Key Performance Indicator
LGPD	Lei Geral de Proteção de Dados Pessoais
NPO	Nederlandse Publieke Omroep
PII	Personally Identifiable Information
ΡΟΡΙΑ	Protection of Personal Information Act
РРА	Privacy Preserving Advertising
SEO	Search Engine Optimization
SERP	Search Engine Result Page
TTDSG	Telekommunikations-Telemedien-Datenschutz-Gesetz
тϋν	Technischer Überwachungsverein

1 Introduction

1.1 Online Marketing and Advertising

Advertising is the fuel that powers the web. As much as we hate to admit, it's the advertising revenues that fund most of the services available to us on the Internet, from Search to News and Weather. And cat pictures.

The main goal for online marketing and advertising is to increase sales by placing meaningful ads to the viewer. To do this, advertising agencies and publishers collect as much data on the viewer as possible to ensure the advertising is as relevant as possible.

A key technical element in this is the so-called cookie, a piece of information that a website can store on the users' computer, or more precisely, inside the user's browser. These cookies can be evaluated by the site placing them or by third parties. With many sites placing cookies and many agencies collecting the data, a complete user profile behind the browser emerges and enables advertising agencies to precisely target their potential customers.

This type of targeting could not only be used for advertising but also to exert political influence and affect elections. For the purpose of this paper, we'll focus on the advertising aspect only.

The vast amount of data available in user profiles is of concern for privacy experts. Several geographies have begun to enact privacy laws to curb data collection, which directly leads us to our research question for this paper, which we want to be able to answer at the end:

Which strategies can we develop to place a meaningful advertisement in a DS-GVO compliant way and without cookies, emphasizing technical and legal aspects?

Being able to show meaningful advertising is vital for the commercial viability of the advertising business, and thus for the world wide web as a whole. The current change in tracking cookies will have a significant effect on the industry, and we want to use this paper to gain some insights and develop strategies for the future.

The overall situation is still very much in flux, and there is no clear consensus on the way forward; very recently, Google has announced to extend the life of third-party cookies until the end of 2023.¹

In this paper, we will focus on the current state at the time of writing and rely on expert opinions from the field of online marketing.

¹See Goel, V. (2021): An updated timeline for Privacy Sandbox milestones. [23]

1.2 Gender-neutral Pronouns

Our society is becoming more open, inclusive, and gender-fluid, and now I think it's time to think about using gender-neutral pronouns in scientific texts, too. Two well-known researchers, Abigail C. Saguy and Juliet A. Williams, both from UCLA, propose to use singular they/them instead: "The universal singular they is inclusive of people who identify as male, female or nonbinary."² The aim is to support an inclusive approach in science through gender-neutral language.

I'll attempt to follow this suggestion in this paper and invite all my readers to do the same for future articles. Thank you!

If you're not sure about the definitions of gender and sex and how to use them, have a look at the definitions by the American Psychological Association.³

Also, being mindful in our writing requires careful evaluation of the terminology we use in our text and a certain level of restraint. For this paper, I use a handy reference to ableist terms that I want to avoid.⁴

1.3 Tools

I wrote the LaTeX source code for this thesis with Overleaf as the primary editing tool and GitHub for revision control; I cropped all screenshots using Pinta. I checked for grammar, style, and plagiarism with Grammarly, and I had LofiGirl for the soundtrack of my writing.

1.4 Acknowledgments

I am very grateful to Yvonne Romes, of planinja Consulting GmbH, for their support on this thesis; I am incredibly thankful and indebted to them for sharing their expertise and the sincere and valuable guidance and encouragement extended to me.

I am also very grateful to the members of my expert panel; without their generous and patient support, this paper would not have been possible.

²Saguy, A. (2020): Why We Should All Use They/Them Pronouns. [42]

³See APA (2021): Definitions Related to Sexual Orientation. [3]

⁴See Brown, L.X.Z. (2021): Ableism/Language. [7]

2 Targeting

2.1 Targeted Advertising

2.1.1 Rationale

Why do we need targeted advertising?

Let's start with the basics: Any advertising or marketing business has a vested interest to make their ads relevant, especially on the world wide web, where the user is, at least to a certain extent, anonymous. In its very basic, offline form, agencies would use context to place their ads; as an example, we might see advertising for cars on busy roads or advertising for food near supermarkets.

In the online world, targeting users can be much more granular and automated, with the ideal outcome of showing an ad exactly at the right time and the right place (e.g., web site) for the user to see it, and with a need that it fulfills, have the user buy the product.⁵

Showing personalized advertisement by targeting the right user at the right time is essential for established as well as new market entrants.⁶

In a recent report, Deloitte found that 74% of small businesses using personalized ads stated that they were important for the success of their business.⁷ 68% of the surveyed small companies said that the use of personalized, targeted advertising helped them to achieve a higher return on their marketing spend.

To achieve this and show personalized and targeted advertising, ad placement uses micro-targeting on the world wide web.

"Microtargeting is a marketing strategy that uses people's data - about what they like, who they're connected to, what their demographics are, what they've purchased, and more - to segment them into small groups for content targeting. It's the reason that if you typically shop at Whole Foods, you may be served an advertisement for organic sunscreen during the Summer. And while it can help deliver content that is interesting and helpful to you, it also has a dark side - especially if it delivers information that's inaccurate or biased and meant to sway your vote."⁸

From a business point of view, showing personalized ads through micro-targeting dramatically increases the relevance of the displayed advertising and thus the likelihood of

⁵See Srimani, P. K. (2011): Behavioral Targeting - Consumer Tracking [49]

⁶See Alreck, P. (2007): Consumer reactions to online behavioural tracking and targeting [2]

⁷See *Deloitte LLP (2021)*: Dynamic Markets [13]

⁸Ghosh, D. (2018): What is microtargeting? [22]

the user noticing it. Even if it does not lead to a sale right away, any product awareness helps and might lead to a deal in the future.

Give the automated nature of ad placement on web pages, there is no longer a need for ads to be shown in bulk, like in the offline world, but can be displayed individually and with high relevance.

2.1.2 Tracking

To achieve this, it is necessary to gather more information on a particular user's interests and follow their interests across the web; this mechanism is called tracking. Tracking as of today heavily relies on the use of cookies, small pieces of information stored in the users' browser, which we will explain in the next section.

Tracking can span web sites and companies - it is not limited to one company keeping a record of one's visits; currently it also includes the ability to analyze all visits on cooperating pages and show, for example, ads on Facebook based on our recent queries at Amazon. Technically this can be achieved through third-party cookies.

Third-party cookies are cookies set by another website other than the one we're currently visiting, which can be later evaluated from any website.⁹

Tracking through third-party cookies is under attack from multiple angles;¹⁰ even Google, who invented it among various other tracking methods, will no longer support it in Chrome after 2023.¹¹

Placing targeted ads currently makes heavy use of tracking, especially in the form of tracking cookies; however, it can also make use of publicly available information, such as social media posts, as we will see later in this paper.

2.1.3 Cookies

Let's go back to cookies and have a look at what it is.

A cookie is a small piece of information that a server sends to the user's web browser for storage and which it can request back at a later point in time.

Cookies can be used for session management, personalizing and tracking.¹² For the purpose of this paper, we will focus solely on the tracking aspect, especially across sites,

⁹See Cookie Script (2021): All you need to know about Third-Party Cookies [9]

¹⁰See *Brinkmann, M. (2021)*: How Firefox new SmartBlock feature works [6]

¹¹See *Goel*, *V. (2021)*: An updated timeline for Privacy Sandbox milestones. [23]

¹²See *Mozilla (2021)*: Using HTTP cookies [34]

and do not cover the more benign use cases for cookies, such as session management, in any detail.

This explanation shows that cookies themselves are not malign and significantly support the user's experience across the web. However, they also include a persistent history of the user's activities, which can track the users' journey across the web.

Let's have a look at where cookies live on a user's browser. As an example, we will look at Firefox, which stores its cookies in a SQLite database in the user's profile directory. Here's a screenshot using DB Browser for SQLite to have a look at the cookies on our computer:

Databa	ase Structure Browse Data Edit Pragmas E	xecute SQL						
Table: 🗐 moz_cookies 🔹 😂 😪 💊 🗟 🚔 🗟 🛛 🔀 👘 🞢 🏝 🏣 Filter in any column								
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477	SIFT_SESSION_ID	41e922d2-f0ad-41b3-9da9-4698b7175f77	.meetup.com /					
478	appbanner_accepted	dismissed=0	www.meetup.com /					
479	_gcl_au	1.1.1325628957.1606736120	.meetup.com /					
480	_uetsid	209b73f0330011ebb9bc9360678b6c1d	.meetup.com /					
481	_uetvid	209b5ea0330011ebbd9fa5c254281cf2	.meetup.com /					
482	_ga	GA1.2.1981929930.1595356616	.meetup.com /					
483	_gid	GA1.2.136316811.1606736121	.meetup.com /					
484	_dc_gtm_UA-3226337-19	1	.meetup.com /					
485	stripe_mid	96cbdf8d-797b-4a9f	.www.meetup.com /					
486	stripe_sid	e28ab4d7-9d78-48d8-be47	.www.meetup.com /					
487	_fbp	fb.1.1606736121496.1779518990	.meetup.com /					
488	_hjAbsoluteSessionInProgress	0	.sans.org /					
489	_hjFirstSeen	1	.sans.org /					
490	_hjIncludedInSessionSample	1	www.sans.org /					
491	truendo_cc	%7B%22ack%22%3Atrue%2C%22version	fridaysforfuture.org /					
492	_pk_id.1.8a51	65e9fc44ff904b7a	fridaysforfuture.org /					
493	_pk_ses.1.8a51	1	fridaysforfuture.org /					
	477 - 493 of 1043 🕨 🕅	Go to:	1					

Figure 1: Screenshot - Cookie Details in Firefox

In its technical essence, cookies are a simple key-value store in the browser that stores the data per host, or more precisely, per web site. It's entirely up to the web site to define which keys it wants to store and which values it wants to set and thus persist across visits.

If a web site accesses its own cookies (as defined in the hosts column), that's called accessing first party cookies and it's part of first party data. For example, this could be used for session persistence, as seen in the first row of the image above.

If a web site accesses data from another site, that's when we're talking about referencing

third party cookies as part of third-party data. Data from other web site's cookies could be used to track users on their visits across different web sites and has become a big privacy concern over the last couple of years. This tracking aspect across sites is what primarily motivates this paper.

We will define the various data types in the next chapter.

In addition to tracking in the web browser, there's also tracking in E-Mail, however, we will not cover E-Mail tracking in this paper.¹³

2.2 Data Types

2.2.1 First Party

Now that we have covered cookies as a mechanism to persist data in the user's browser across sessions, we need to look at the various classes of data, define their usage and prepare for the analysis of their relevance regarding to privacy regulations.

The definition for first party data is actually quite simple; it is data that we collect from our own sources.¹⁴ Data could include information that we retrieve from our own cookies or from any information the user might have left on our website, for example, by looking at an item. It also includes registration information, shop logins, and past sales or other interaction. Collection of this kind of data is not a big issue from a privacy point of view, as long as it's done correctly and with the necessary precautions against abuse in place.

As an example, in a web shop, a clever use case for using one's own shop data for marketing would be to follow up on an abandoned sale. Here's a screenshot on a followup E-Mail where the user looked at an item but did not put it into their shopping cart:

¹³See *Doffmann, Z. (2021)*: Why You Suddenly Need To Delete Gmail On Your iPhone [15] ¹⁴See *OnAudience (2019)*: What is first party data? [36]



Figure 2: Screenshot - Zumiez Follow-Up E-Mail

RECENTLY VIEWED



Ninth Hall Rogue Python Black Jeans



This screenshot was taken from an E-Mail by Zumiez, prompting the user to follow through with buying an item that they looked at the day before.

Another example of clever use of first-party data for marketing are the advertising Amazon places on its own web pages, as we will see further below, or the regular follow-up E-Mails from Netflix to finish the season of a series we just started, as shown in the next screenshot:

Figure 3: Screenshot - Netflix Follow-Up E-Mail (Boruto)



2.2.2 Second Party

The next class of data that we will look at is second party data. Simply speaking, second party data is another companies first party data.¹⁵

Assuming that two companies use the same identifier for their customers, for example, the E-Mail address, one company could sell the shopping history on their site to another company to enable them to advertise related products. Another option would be not to sell the data outright but to establish cooperation and use the data from both parties across both web sites.

As we will see later in this paper, from a legal perspective, this is the most challenging

¹⁵See OnAudience (2019): What is first party data? [36]

setup to achieve. Both companies would need explicit consent from all their users to transfer their data to the other company; they would otherwise open themselves up for a lot of legal trouble and violate the trust and privacy of their customers.

It can be achieved, though, for example, within a conglomerate such as Facebook, WhatsApp and Instagram, where platform users are explicitly asked to allow their data to be shared across all platforms. In the case of WhatsApp, the announcement to cooperate on user profiles with the parent company in the short term led to the departure of some users that greatly benefited the competing platforms. In the long term, however, the integration did go well, and the users now experience streamlined profile management and smooth interoperability. Monthly WhatsApp users in July of this year now exceed 2 billion, and their numbers are growing steadily.¹⁶

In summary, we can conclude that if the proper agreements with the users are in place and the sharing is transparent, the use of second party data can be beneficial to both consumers and providers, and can greatly enhance the shopping experience for all involved parties.¹⁷

2.2.3 Third Party

The last class of data we want to look at is third party data. It's defined as additional data that we buy from specialized sources on the web to enrich our own data.¹⁸

Third party data can be derived through the use of third party cookies. As the user travels the web and leaves their traces in the cookies of their browser, data management platforms harvest this information, anonymize it, and create profiles from it.¹⁹ These profiles are then sold and can be used to enrich one's own data.²⁰

Other sources of third party profile information are the data items that users leave voluntarily on the web, such as on their public social media profiles and posts, or through location information from their fitness trackers.

With the impending demise of the tracking cookie, some aspects of harvesting thirdparty data might go away, and user profiles might become less readily available on the web to purchase or otherwise available for targeted advertising.

As we progress in the paper, we will try to identify other strategies to display meaningful

¹⁶See *Statista (2021)*: Most popular global mobile messenger apps [50]

¹⁷See *Schneier*, *M.J.* (2017): Protecting customer privacy when marketing with second-party data [43] ¹⁸See *OnAudience* (2019): What is first party data? [36]

¹⁹See Shiffman, E. (2020): What is Third-Party Data? [44]

²⁰See Sponder, M. (2017): Understanding and Working with Third-Party Data [48]

advertisements without using the data obtained from tracking cookies.

2.3 Toolstack - Analytics

2.3.1 Google Analytics

To be able to judge whether our advertising is meaningful and successfully placed, we need to analyze the traffic to our page and the behavior of our users.

First, let's look at the tools that allow us to analyze traffic to our site and evaluate key performance indicators for our campaigns, such as Click-Through or Conversion rates.^{21,22}

Google Analytics is the most widely used tool for web traffic analysis and gives us, according to its website, all the necessary tools to analyze our web business data and gain insights into our campaign performances.

By looking at the data provided, we can gather deep insights into the visitors of our page and predict the performance of our posts.²³ We can also measure the effectiveness of our ad campaigns, which is another and very different topic, and with the details being out of scope for this paper.

2.3.2 Open Source Analytics

In addition to Google Analytics, there are a couple of other alternatives, some of which are open source. One example for open source analytics is Plausible, which I covered in a previous paper and which claims to be fully compliant with all major privacy legislation.²⁴

For the scope of this paper, we will from here on only focus on the data sources that we can use to place our campaigns and not on the details of the metrics that are needed to support our campaigns.

However, to illustrate, here's a screenshot of Plausible's main web analytics dashboard, showing KPIs such as the number of unique visitors or the page bounce rate:

²¹See Romes, Y. (2020): 10 Inbound KPIs, die jetzt auch Personaler kennen sollten [41]

²²See Chaffey, D. & Smith, P. (2017): Digital Marketing Excellence [12]

 ²³See Frank, C. (2021): Web Traffic Analysis - Predicting Blog Post Performance [21]
 ²⁴See Frank, C. (2020): Usefulness of open-source tools for web analytics in EMarketing [20]



Figure 4: Screenshot - Plausible Web Analytics Dashboard

2.3.3 Yandex Metrica

In case we're reluctant to send data to the US for processing but are at the same time not invested in the open source side of software, Yandex Metrica is another commercial option for web page analytics, covering more than 8 million sites, according to their web page.

Metrica is part of the Yandex family of tools; Yandex is headquartered in Moscow, Russia, and operates the biggest search engine there.

Yandex Metrica and Google Analytics are both operated by major search engine providers, which is not that surprising - in addition to crawling the web, these search engines need to perform a lot of analytics themselves to put the most relevant search results on the first page. It makes a lot of sense to expose these analytics in some form to the end users.

Optimizing our placement on the search engine result page is a wholly different topic that is out of scope for this paper.

2.4 Toolstack - Advertising

2.4.1 Google Ads

Now that we have identified the data sources for successful advertising campaigns and the tools to measure the success, we need to look at the platforms where we could place our campaigns.

The biggest platform is Google Ads and we can use it to run campaigns on Google's search engine result pages and affiliates.

Ad placement on Google is based on search keywords and Google's knowledge of the user's profile; Google operates a bidding website where we place bids for certain terms and demographics to get our particular ad shown. Ad placement and the underlying algorithm is a science unto itself; recently, Google has come under scrutiny from the regulators and, in one case, agreed to the ruling and the fine.²⁵

To target the most appropriate users for an ad, Google needs to have accurate information on the user itself, and that's where third party data and data from third party cookies come in.

It's important to differentiate between ad placement, which is a paid-for service, and search engine result page placement, which can be improved through Search Engine Optimization (SEO) methods - even though both techniques are related to the Google search engine, they are not the same.

2.4.2 Amazon Advertising

The second biggest advertising platform is Amazon Advertising, a platform to place ads for our products on Amazon's pages and their affiliates.

The most significant difference to Google Ads is that Amazon Advertising already has all the relevant data from their users through the Amazon shopping web site. Amazon Advertising can operate almost entirely with its own first party data. It has user preferences, shopping history, and recent searches, all from its own data source and obtained with full consent from its users.

Amazon Advertising also operates as a demand-side platform with selected partners, to increase the reach of the ads placed, which would be a case of cooperation and the use of second party data.

²⁵See Burgess, M. (2021): France Cracked Down on Google's Ad Tech [8]

With ads focused on the Amazon shopping experience and consent from their users obtained on sign-up, Amazon's advertising business is not that much affected by the current discussion about third-party data.

2.4.3 Facebook Advertising

Last but not least, we need to mention Facebook Ads, a platform to place ads on Facebook, Instagram, Messenger and the Audience Network.

Similar to Amazon, Facebook already has all the user profile data that it needs from its own platforms and has obtained consent during sign-up to share that data within its own family of businesses.²⁶

Both companies, Amazon and Facebook, sit on a vast trove of invaluable first and second party data that they can freely use for their advertising business without needing to resort to third party data.

Knowing this, Facebook is currently running an extensive campaign to recruit new business customers for their personalized advertising offering.²⁷

2.5 Moving past cookies

2.5.1 Browser-based

To continue with targeted advertising, even after the demise of the tracking cookie, new concepts and data sources are needed, some of which we will present and analyze in this paper with the goal of developing possible strategies for online marketing in the future.

A common thread of all the new approaches is the attempt to make targeted advertising work and maintain the user's privacy at the same time; an umbrella term for these approaches is Privacy Preserving Advertising.²⁸

The primary contender in the PPA space is Google FLoC. The idea behind Google's federated learning of cohorts is actually quite simple. It aims to expose the users' general browsing interest without disclosing the browsing history, as it is the case today through the widespread use of third party cookies.

To achieve this, Google proposes an algorithm to assign cohort ids to individual browsers

²⁶See *WhatsApp (2021)*: What information does WhatsApp share with the Facebook Companies? [54] ²⁷See *Facebook (2021)*: Dein Unternehmen ist es wert, entdeckt zu werden [18]

²⁸See Rescorla, E. (2021): The future of ads and privacy [39]

based on shared browsing habits. Then, instead of placing ads towards personally identifiable user profile data, ads would be placed against an anonymous cohort.

The idea behind FLoC itself sounds quite reasonable; it is, however, under heavy fire from a privacy point of view.²⁹ Among others, EFF³⁰ has published a detailed analysis of FLoC's shortcomings in regards to privacy and why they believe that FLoC would be a terrible idea.³¹

One of the biggest concerns is that by combining the FLoC data with browser fingerprinting, for example, super profiles could be created that would contain much more information than is available today. In summary, all currently available analyses question the actual ability of FLoC to maintain the user's privacy and foresee a much broader tracking of users and their profiles than currently through the use of third party cookies, should it come through.

It is worth noting that the issues with FLoC center around privacy, not the algorithm itself - federated learning is a well-established technique in the field of machine learning.³²

2.5.2 Identity-based

Similar to FLoC are several other approaches that implement some kind of advertising ID instead, which would attempt not to violate the user's privacy rights and still allow for targeted advertising.

The most prominent approach was Apple's ID for Advertising, which does not seem to be going anywhere for the time being.³³

Google also has an Advertising ID that supports ad personalization based on preference.³⁴ Similar to Apple's ID, Google's Advertising ID offers an opt-out mechanism; if one opts out, only generic ads will be shown with much less relevance, and with a much lower chance of a sale for the company placing the ad.

An industry consortium is releasing an open-source ID standard, UID2.³⁵ The basic premise is the same as for Google's or Apple's ID - the user is identified through a piece of personal information that is then encrypted and used as ID for the advertising profile. Unlike the approach from Apple and Google, however, the ID is not based on the device

³⁴See *Google (2021)*: Advertising ID [24]

²⁹See *Rescorla, E. (2021)*: Privacy analysis of FLoC [40]

³⁰Disclosure: I am a member and active supporter of EFF

³¹See Cyphers, B. (2021): Google's FLoC Is a Terrible Idea [11]

³²See Li, T. (2020): Federated Learning: Challenges, Methods, and Future Directions [30]

³³See Ray, O. (2020): What is IDFA and Why Apple Killed it [38]

³⁵See The Trade Desk (2021): Unified ID Solution 2.0 [52]

or the browser but would require an active login. Quite elegantly, this would solve all issues around consent and privacy. Still, it remains to be seen how many users will be logging in to an advertising network and share their preferences just to get better ads displayed.

Also, Microsoft is working together with the Harvard University on yet another standard³⁶, OpenDP, based on Differential Privacy.³⁷ The conceptual idea behind differential privacy is quite interesting, but an analysis is out of scope for this paper.

2.5.3 Data-based

A completely different option would be to do away with third party data altogether and focus solely on second party data to augment one's own data.

One way to achieve this could be through data clean rooms, where independent contract processors would anonymously combine first party data of two or more companies and return the aggregated results to all parties. Having independent data trustees that vouch for anonymity could make sure that such data processing would not run afoul of data protection regulations.³⁸

Even though this approach sounds quite promising, such an independent infrastructure does not yet exist, and no supra-national body has stepped up to create; however, there are some nascent offerings, such as Google's Ads Data Hub.

2.5.4 Content-based targeting

Another quite interesting approach is to forfeit user-based targeting altogether and concentrate solely on the browsing context. In 2020, the public radio in The Netherlands did this and went from targeted advertising to contextual advertising; quite surprisingly, they saw their ad revenues grow.³⁹

The system at NPO is a bidding system similar to Google Ads; however, ads are not placed based on a user profile, but on the current context, i.e., a web page that is shown or a TV show watched. As far as the documentation shows, there's never any personally identifiable information being collected or transmitted and thus no issue at all with violating the user's privacy.

³⁶See Bird, S. (2020): Introducing the new differential privacy platform [5]

³⁷See *OpenDP (2020)*: What is Differential Privacy? [37]

 ³⁸See Younger, M. (2019): The Three Hidden Technology Trends Behind Data Clean Rooms [55]
 ³⁹See Edelman, G. (2020): Can Killing Cookies Save Journalism? [17]

Abandoning the user profile in favor of context feels a bit like going back in time, but it does eliminate all privacy woes.

2.6 Legal Framework

In the final chapter of this section, we need to have a brief look at the privacy laws and regulations that have come up in recent times.

With privacy coming into focus more and more, legislation is being drafted all over the world to better protect the user's privacy, eliminate unauthorized data collection and fight surveillance capitalism.⁴⁰

There's quite a number of legal frameworks that begin to govern tracking and advertising, so here's a list of the most common ones with links to the respective legal texts:

- GDPR (General Data Protection Regulation)
- DS-GVO (Datenschutzgrundverordnung)
- BDSG (Bundesdatenschutzgesetz)
- TTDSG (Telekommunikations-Telemedien-Datenschutz-Gesetz (Entwurf))
- CCPA (California Consumer Privacy Act)
- LGPD (Lei Geral de Proteção de Dados Pessoais)
- POPIA (Protection of Personal Information Act)
- DSA (Digital Services Act)
- DMA (Digital Markets Act)

We cannot dive into the details on all these regulations; for the purpose of this paper, we will assume that the reader is familiar with the content of the most important ones for Europe and Germany, the GDPR/DS-GVO and the BDSG, and will from here on solely focus on their impact and interpretation.

Until here we've covered all fundamental aspects of tracking and targeting and introduced the most relevant tools and current developments. To continue developing strategies for online marketing beyond the end of the tracking cookie, it's time to bring in the experts.

⁴⁰See Zuboff, S. (2020): You Are Now Remotely Controlled [56]

3 Research Methodology & Interviews

3.1 The Need for Experts

The current situation in regards to targeting and tracking cookies as one enabling technology is under heavy development and undergoing changes almost on a daily basis; for this paper, we will look at developments up until the end of July 2021 and hope that by the time you read this paper, the results will still be somewhat relevant.

The available literature is still sparse at the time of writing, and thorough quantitative analysis has yet to be performed. Still, we want to analyze the situation and develop strategies for online marketing in a (tracking) cookie-less world.

The goal is to reach a conclusion at the end of our analysis and present a couple of possible strategies for advertising placement in the future. We will emphasize the technical and legal aspects and hence will focus our research on these; we aim to come up with strategies that are both DS-GVO/GDPR compliant and respect the user's privacy.

These strategies will be the outcome of our research and the answer to the research questions in the final chapter of this paper.

To perform our analysis and deliver the most value, we're choosing Content Analysis for our research, a qualitative research method.

3.2 Content Analysis

The most appropriate method for the research at hand is Qualitative Content Analysis, as pioneered by Philipp Mayring. In 1983, Philipp Mayring developed a framework to perform a structured qualitative text analysis through content analysis. During their tenure at the University of Klagenfurt, Phillip Mayring defined a stringent procedural approach on how to analyze text and deduct research information from it, using inductive development of categories and subsequently the deductive application of these.⁴¹

The method is well respected in the field and accompanied by a lot of background literature on how to perform such an analysis and arrive at meaningful results.⁴²

Mayring developed this qualitative content analysis method as an addition to pure quantitative content analysis to establish a framework to perform a systematic analysis of a text. To do this, Mayring proposed to develop a set of categories in which the text

⁴¹See Mayring, P. (2020): Qualitative Content Analysis [33]

⁴²See Marx, J. (2019): Qualitative Inhaltsanalyse nach Mayring [32]

is then analyzed and summarized. The interpretation at the end will then lead to the desired result of the analysis.⁴³

The analysis is not only tied to the content of an analyzed text but can also take other factors into accounts, such as structure or context.⁴⁴ For the purpose of this paper, though, we'll focus only on the content and not factor in structure or context.

3.3 Expert Interview

Rather than analyzing the myriads of available opinion texts on the web, we decided to use an expert panel for further analysis. We aim to gather the most up-to-date expert knowledge to provide guidance and value. Our approach of conducting expert interviews is mainly based on Robert Kaiser's book on the same topic.⁴⁵

The first question we need to look at is what constitutes an expert. Uwe Flick advocate a somewhat open definition and suggest looking at the person's role or function within the field of where the expertise is required, rather than a formal or academic qualification.⁴⁶

Especially since there is not yet any academic literature available around the demise of the tracking cookie and its effect on online marketing, using a panel of experts seems to be warranted and the most obvious choice to conduct our research. It will give us the opportunity to differentiate between all available options and gain clarity and insight on the topic. It will also allow us to capture the most up-to-date information and achieve valuable and actionable results and outcomes.

We were, fortunately, able to secure a couple of well-known experts from the available people in the field, which we will introduce below. The area of expertise we were looking at was the legal and technical aspects of data-driven online marketing, matching the focus of the underlying research question. All of our experts have a strong professional relation to the field of digital online marketing.

What exactly is an expert interview? In its essence, an expert interview is a conversation with one or more persons.⁴⁷ For our case, we will split the interviews into different one-on-one sessions, rather than using a group setting, catering for the busy schedules of the individuals involved. Further below, after introducing our expert panel, we will also outline the interview questions and the rationale behind each one of them.

⁴³See Halbmayer, E. (2010): Qualitative Inhaltsanalyse [25]

⁴⁴See Mayring, P. (2020): Qualitative Content Analysis [33]

⁴⁵See Kaiser, R. (2014): Qualitative Experteninterviews [27]

⁴⁶See Flick, U. (2009): Qualitative Sozialforschung [19]

⁴⁷See Bayer, M. (2021): Expert Interview for College/University Students [4]

3.4 Summarizing Content Analysis

The most prevalent method of performing a qualitative content analysis on open-ended interviews is to build categories and then abstract the results, as outlined by Philipp Mayring.⁴⁸

In our case, given the relatively broad subject and the small panel of experts, we will, however, be using a different technique instead: Content analysis through structure formation techniques⁴⁹ and perform a summarizing content analysis.

The goal of a summarizing content analysis is to reduce the material, in our case the answers to our interview questions, in a way that the original meaning is kept but the extent is reduced down to a manageable level.⁵⁰

For each of our interviews, we will first paraphrase the answers by the question to distill the most important information from our experts and then generalize a summative answer for each of the questions. This approach proposed by Katharina Kindermann of treating every interview as a separate set of data is especially helpful in a situation like ours, where the expert panelists come from very different backgrounds and can offer a quite diverse view of the situation at hand.⁵¹

From the generalized answers to the research questions, we will then build a summative conclusion to our expert interviews, which constitutes the final integration step in Phillip Mayring's process definition.⁵² We will then be using a dialectic approach to reach the outcome for our research question.⁵³

3.5 Critique of Methodology

Using expert interviews is not without issues, as Robert Kaiser point out.⁵⁴ We need to address a couple of possible problems before starting the analysis.

One of the possible problems Robert Kaiser point out is the missing justification for conducting expert interviews instead of a thorough analysis of literature.⁵⁵ As were are trying to develop strategies in a very new and still pretty volatile situation, the use of an expert panel seems to be justified. Even though there are many articles on the subject

⁴⁸See Mayring, P. (2020): Qualitative Content Analysis [33]

⁴⁹See Kindermann, K. (2020): Summative Content Analysis [28]

⁵⁰See Halbmayer, E. (2010): Qualitative Inhaltsanalyse [26]

⁵¹See Kindermann, K. (2020): Summative Content Analysis [28]

⁵²See Halbmayer, E. (2010): Qualitative Inhaltsanalyse [26]

⁵³See Adorno, T.W. (2019): Einführung in die Dialektik [1]

⁵⁴See Kaiser, R. (2014): Qualitative Experteninterviews, p. 125 [27]

⁵⁵See Kaiser, R. (2014): Qualitative Experteninterviews, pp. 126-128 [27]

available on the web, no clear consensus has yet emerged, and expert opinions are spread far and wide. Using well-known experts in the field to perform thorough research and reach an agreement was the most logical approach.

Another issue could be to determine whether we are looking for the right knowledge or expertise in our experts.⁵⁶ All our experts are practitioners in the legal or marketing profession, and we are looking for possible strategies for the future of online marketing, so from our point of view, the selected experts do have precisely the knowledge and experience that we are looking for.

Another problem could possibly arise from the selection of the experts on the panel, according to Robert Kaiser.⁵⁷ By using a rather diverse panel and focus on practical experience in the field, we hope to avoid this. Our panelists cover all relevant technical and legal aspects. Still, they do not belong to the same opinion bubble, so that we can be relatively sure that we're avoiding too strong a bias here. We're also conducting the interviews one by one to avoid that our experts influence each other.

The final problem that we want to address is a possible lack of theory in the analysis and too high an emphasis on the interview itself.⁵⁸ Focusing on possible strategies to deal with the demise of the tracking cookie has indeed potential to stray from the broader field of knowledge available. We have laid a solid foundation in the previous chapter on the basics of online marketing and covered the majority of tools at hand. We expect the outcome of the analysis will be within the parameters set by the research question and prove to be relevant for it. As far as our research question is concerned, we are looking for very viable and actionable strategies for the future, and our panel seems to have the proper knowledge for this.

3.6 Expert Panel

To achieve all of this and get a balanced view and a broad range of expertise, we have selected three well-known experts in their field from Cologne and the surrounding areas. All three of them are highly regarded experts in their field and fully qualified to offer insight and guidance on the subject.

Let's have a look at each of them more closely:

• Renate Schmid

⁵⁶See Kaiser, R. (2014): Qualitative Experteninterviews, pp. 128-132 [27]

⁵⁷See Kaiser, R. (2014): Qualitative Experteninterviews, pp. 132-136 [27]

⁵⁸See Kaiser, R. (2014): Qualitative Experteninterviews, pp. 144-146 [27]

- Roman Pusep
- Gerrit Eicker

Renate is a lawyer at Wilde Beuger Solmecke, a renowned and leading law firm in the field of media and copyright law, located in Cologne. With Kanzlei WBS they operate the biggest German-language law channel on YouTube and are widely recognized as experts in their field. Throughout the last couple of years, WBS has actively participated in the discussions about copyright law and Article 17 (the article formerly known as 13) and are known as thought-leaders in the field of e-privacy.⁵⁹ Other fields of expertise in addition to media and copyright law, according to their website, are IT and internet law, data protection and security regulations, e-commerce, and competition law. Renate's personal fields of expertise are media law, data security and protection, and mediation; they hold a TÜV certification as data protection experts and are fluent in French and English.

Roman is a partner in the law firm Werner Rechtsanwälte Informatiker. Werner RI is a law firm providing legal advice on commercial law, with a strong focus on IT, data protection, and internet law; they are widely known as thought-leaders on the law in the field of digitization and frequently offer seminars and workshops on the intersection of IT and law. Roman's personal fields of expertise are IT law, commercial and corporate law, and they also hold a TÜV certification as data protection experts; they are fluent in Russian. In addition to their law practice, they are also well-respected lecturers at FOM in Cologne for IT- & Medienrecht, IT-Recht & Compliance, and Informationssicherheit & Datenschutz.

Gerrit is the owner of the agency eicker.digital - Wir sprechen Online. The agency is focused on digital communication and is known as a thought-leader in the field of digitization and conversation as well as knowledge management. With eicker.TV they run a well-known German-language channel for up-to-date digital marketing and communication information and regularly publish on the major marketing networks. Gerrit is heavily invested in web analytics and process optimization. They coined the term nethnology, or ethnology on the net, encompassing the social, cultural, and economic life of netizens. The primary method of nethnology, according to their web page, is the participant observation on the web and social networks, making them an ideal expert candidate for online marketing and especially analytics. Besides leading their agency, they are also well-known lecturers at FOM in Münster for Web & Social Media Analytics.

Between the three of them, we are fortunate to have covered a broad range of expertise in

⁵⁹See Solmecke, C. (2021): Die Uploadfilter sind da [46]

the fields that we need to look into for the future of personalized or targeted advertising. Our experts cover a wide area, from data protection laws and civic society all the way down to digital communication.

This diverse panel will guarantee a well-rounded outcome and meaningful results. A mix of practitioners and university lecturers very well befits FOM as a University of Applied Sciences.

3.7 Interview Questionnaire

After selecting our panel, the next big part in setting up the interview was to create a questionnaire.

The interview questions are supposed to act as prompts and guides for the experts; they are not meant as a survey. The aim of the questions is to have the interviewees tell their own stories on their own terms and share their own expertise.⁶⁰

With the technology still being in flux and the legal framework still developing, we want to focus our panel questions on the one aspect that we believe will not likely change in the near future, and that is the three different types of data that we have outlined above.

Let's quickly rehash the various data types: First party data is data directly collected from the users on our page, second party data is someone else's first party data and third party data is aggregated data we buy from a data exchange or management platform.⁶¹

Regardless of future development, we can safely assume that this classification will hold for a couple of years and will be a sound basis for further analysis. The three types of data are independent of any technology; they are also treated differently in current legislation.

It's important to keep in mind that the type of cookie that is at the heart of this paper, the third party tracking cookie, is only relevant for third party data.

We'll stick to using direct questions only and keep them simple and straightforward for the interview questions. We want to gather as much information from our panelists as possible and let them answer in their own words and from their own experience, without leading them towards a certain outcome or opinion.⁶²

It's the unfiltered narrative of our experts that we are interested in.

⁶⁰See Nelson, T. (2012): Some Strategies for Developing Interview Guides [35]

⁶¹See *Lotame (2021)*: 1st Party Data, 2nd Party Data, 3rd Party Data: What Does It All Mean? [31] ⁶²See *Kaiser, R. (2014)*: Qualitative Experteninterviews, p. 68 [27]

Firstly, we start by asking about first party data. We want to gather information on how our experts view the field of first party data in the current environment and the near future. We expect the emphasis in their answers on the legal and technical aspects, mainly around GDPR/DS-GVO and analytics.

- In the current environment, from your point of view, what's the primary legal basis for collecting first-party data?
- In the near future (one to three years), how do you see the development of the legal situation for collecting first-party data?

From the answers, we expect additional information on the current legal frameworks, data privacy aspects, and a commercial view from a marketing viewpoint. Also, we expect an outlook on the possible developments in the next couple of years.

Secondly, we ask the same question again, this time for second party data:

- In the current environment, from your point of view, what's the primary legal basis for obtaining second-party data?
- In the near future (one to three years), how do you see the development of the legal situation for obtaining second-party data?

Here, we are expecting additional information, especially on the possible roles of trustees and data processors, in addition to more general views on second party data itself and on how it could possibly play a more significant role in online marketing in the future. We're also hoping to gather information on the current use of second party data in online marketing and advertising right now.

Thirdly, we ask the final set of questions on third party data:

- In the current environment, from your point of view, what's the primary legal basis for obtaining third-party data?
- In the near future (one to three years), how do you see the development of the legal situation for obtaining third-party data?

The use of third party data is the most contentious usage; here we are looking for more insights, especially into the privacy aspects, together with more general views on the legality of the current approaches and possible options for the future.

We also hope to get some balanced information on the possible sources for third party data and the origins of the third party data, one of which is the tracking cookie, whose demise is at the root of this paper.

To finish, we'll ask the experts to speculate about the future of targeting and personalized advertising in online marketing:

• Taking a wild guess, from a legal point of view, where do you think targeting on the web will be in ten years?

We do not have any firm expectations on the answers here; we just want to learn what our experts think about the future of online marketing and where they see the development going. We also hope to gain some insight into the future of personalized advertising and the underlying data basis and algorithms.

3.8 Interview Execution

To finish, here is some technical information about the expert interviews themselves.

The interview with Renate Schmid was conducted in English and entirely through E-Mail; a summary write-up will be included with the thesis data.

The interviews with Roman Pusep and Gerrit Eicker were both conducted each over a 90 minutes video call in German. The call was made and recorded with Zoom and then manually transcribed using f4x Spracherkennung as a starting point; the transcript will be included with the thesis data.

Where necessary for the analysis, translation from German to English was performed with support from DeepL and Google Translate.

After conducting and transcribing the expert interviews, we will analyze the outcomes in the next section and then come up with an answer to our research question about possible future strategies for online personalized advertising in the final section.

4 Interview Analysis

4.1 Regarding First Party Data

4.1.1 Paraphrased Interview Content

Renate point out that companies should be aware of Art 6 I lit f) DS-GVO as the important legal basis for all technical cookies, and Art 6 I lit a) DS-GVO for any cookie that does not have a technical function but is used for other purposes, for example, user behavior.

They see a strong focus on first-party cookies and data for the future because people will prefer privacy.

Roman also put a strong emphasis on the DS-GVO. The key factor from their point of view is the question, whether one is dealing with personally identifiable information (PII) or not, as this would decide whether the DS-GVO is applicable at all.

Based on a recent decision of the EuGH, all data that includes an IP address would be considered personally identifiable - on the internet, this unfortunately applies to a lot of data items, possibly including cookies. Once we've clearly established that the DS-GVO applies to the data in question, the next step would be to determine whether storing and processing it is permissible within the boundaries of the law. As of today, the primary aspect considered here by most parties to judge the legality seems to be informed consent, although the law offers other alternatives, such as justified interest.

Personally identifiable data does mean that the data can be traced back to a natural person - this does not necessarily apply to the advertising identifier that we have looked at before, such as FLoC or IDFA. If they are truly anonymous, such identifiers would hence not be considered personally identifiable data and not fall under the provisions of the DS-GVO.

Gerrit see first party data as the most important asset for any company. As they collect and own the data, it's part of their core business. Processing first party data from a legal and privacy aspect is relatively easy; it just requires transparency and informed consent. The upcoming TT-DSG will allow functional cookies; for anything else, we'll still need informed consent.

All data protection and privacy legislation are focused on processing personally identifiable data from a company's own source, and thus the process of dealing with such regulations is well established.

For any form of marketing, we'll need data; according to Gerrit, the best data is the data

we already own. Unlike with second or third party data, once we have consent, we can use the data of our visitors or customers to provide the best personalized experience. A good example is Amazon, which only relies on first party data in its advertising and is hugely successful.

4.1.2 Generalization

All panelists agree on the fact that first person data is by far the most essential data for a business. With GDPR/DS-GVO (and similar legislation across the world), we have a solid framework to process data that we own. Once we obtain consent, we can work unencumbered with the data, as long as we don't share it and stick to the communicated use.

Using the analytics tools that we previously discussed, we can take ownership of our web site or web shop and analyze its performance. We can create and run marketing and advertising campaigns tailored to our customers, based on our own data and entirely within the boundaries of the relevant data protection laws.

By only processing our data by ourselves or through approved contract processors, we can maintain the necessary and desired level of privacy for our users.

4.2 Regarding Second Party Data

4.2.1 Paraphrased Interview Content

Renate see Art 6 I lit a) DS-GVO as an issue for companies because users do not have to expect that their data is transferred to a second party; they see no change on this issue in the near future.

Roman also see an issue with the DS-GVO here, split between the party that sends the data and the party that receives the data. For the party that sends the data, it would be necessary to obtain the explicit consent of every person affected - a blanket consent for sharing for marketing purposes (as an example) won't suffice. The same for the party that receives the data - to process the data, it would need the consent of all parties involved, which will be very difficult if not impossible to get.

Around consent and consent forms, Roman point out that there is a common practice of enticing users to agree without fully understanding the choices - from their point of view, this is something that lacks transparency and would invalidate the consent.

One way around this could be a contract processor agreement, in which case the second

party would become an extension of the first party, and there would be no data transfer, from a legal point of view, but Roman do not see this as a feasible option in the real world.

Gerrit too see the biggest problem in the data handling once we start combining data or involving third parties. A possible solution could be intermediate data processors or clean rooms, but they do not see a viable business model for such a service yet.

Once data from different companies get combined, according to Gerrit, the danger is that super profiles could emerge, which would allow for easy identification of individual persons and would run certainly cause issues with the existing set of data protection regulations.

Having said this, in an ideal world, from their point of view, all companies would have solid first party data, and there were services available that would allow the companies to combine their data in a secure and privacy-aware way.

4.2.2 Generalization

Sharing personally identifiable information with another company is a big privacy concern and runs afoul of most data privacy laws. Without established intermediaries or data clean rooms, working with second party data would require the consent of every individual involved, which might be pretty challenging to get.

If there was a solid legal framework for such intermediary services, it could in the future turn into a good option for online marketing.

4.3 Regarding Third Party Data

4.3.1 Paraphrased Interview Content

Renate again see an issue with Art 6 I lit a) DS-GVO here, as it might be quite difficult to get consent from all parties. They expect it to become even more difficult in the future because of potentially strict rules of the upcoming e-Privacy act.

Roman has a slightly different view and question whether the mere use of someone else data could be a violation of the DS-GVO. If a company were to ask Google Ads, for example, to place an ad for a car to users that match the car aficionados criteria, they would not be processing personally identifiable data. Hence it would not become an issue under the DS-GVO. Google showing an ad to their users on their search results page is, by itself, not an issue in regards to data privacy, neither for Google nor for the company placing the said advertisement.

If both parties desire closer cooperation, a contract processor agreement and a solid mechanism to obtain consent could work but create its own legal conundrums. A contract processor agreement shifts the responsibility for all actions to the originator of the contract, and also all liability. According to Roman, this makes such a scenario challenging to set up and rather unlikely.

Gerrit see working with third party data as the biggest issue of all, especially for online marketing. Obtaining public third party data is easy, and some data is even made available voluntarily through the use of social media, for example.

Given the vast processing power of today's computing infrastructure, companies can combine individual profiles on almost all individual users. Sometimes, the profiles might even be more accurate than what the users know about themselves. From Gerrit's point of view, a lot of the users on the world wide web do not know how much data they have already shared and how much money this data is worth to the companies creating the profiles.

What's missing from their point of view is comprehensive regulation on the use of big data on personal profiles, but they do not see a possibility to stop the usage of the data anymore; they even argue that there's no need for further data collection to continue to feed and grow the underlying algorithms that govern our lives.⁶³ Predictive analysis can enable companies to gain a much better picture of us than what we have ourselves.

According to Gerrit, the deed is done, and there's no way to restrict or curb the usage of third party data in the future.

4.3.2 Generalization

Dealing with third party data has two aspects: One is the enormous amount of personally identifiable information that's already available online, through social media, and through Data Management Platforms - processing this data is pretty much unregulated.

It also does not undergo any quality check, so the usage is not without risk.

The other aspect is that we might be using such data when placing marketing campaigns through a broker, such as Google Ads or Facebook Ads (which we covered previously) - even though it might no be a privacy problem to use a broker's profiles, we have no

⁶³See Kling, M.-U. (2019): QualityLand Band 1 [29]

upfront control over the quality of the data, unlike if we were to use our own, first party data.

Without tracking cookies, and thus without an easy-to-access browsing history, there's a possibility that the profiles will become less accurate in the future; however, advances in big data and machine learning might offset that loss and lead to even more detailed user profiles in the future.

4.4 On a 10-year Outlook

4.4.1 Paraphrased Interview Content

Renate expect targeting to become more subtle and more hidden, trying to circumvent privacy regulations.

Roman expect targeting to become easier and foresee a much easier and simple mechanism to obtain consent, possibly through a general or per web page browser setting.

From their point of view, as pragmatists, the market demand for targeted advertising will most likely shape legislation in its favor; they expect the market to instead grow than shrink.

Gerrit see the most significant task for the future to educate the people on the use of modern media ("Medienkompetenz").

Furthermore, they do not believe that targeting in its current form will be necessary for the long run. With the rise of the ubiquitous digital assistants that can anticipate the needs of the individual user, targeting will become much less important, and the systems will be able to use their own feedback loops to improve and learn.

Nevertheless, given the speed at which technology develops, they expect targeting and tracking to grow further and become all-encompassing. They expect that laws and regulations will have to play catch up.

4.4.2 Generalization

Tracking and profiling seem to be here to stay. It might become more hidden or handed over to big data algorithms, but it seems to be too late to stop the proliferation of online user-profiles and their use for personalized advertising.

Targeted advertising will thus remain; it might change with the proliferation of digital assistants and become less of a manual process of campaign placement but more of an

algorithmic function in the shopping metaverse.

We can expect the legislation to lag behind the technical capabilities.

4.5 Conclusion

All our panelists agree that working with first party data is the most promising way forward - working with first party data will feature prominently in our resulting strategies. Having said this, dealing with first party data also requires the most extensive effort of all available options.

To gather first party data on the web, the web site needs to be correctly instrumented for analytics, and KPIs and measurements need to be defined and set up for all marketing and sales campaigns. As it is first party data, i.e., data we own, no other party can collect this data but ourselves.

From a legal point of view, working with first party data is easy and well defined.

The concept of data clean rooms to deal with second party data seems to be very interesting, but for the time being lacks both a solid legal framework as well as a solid commercial offering, according to our panelists.

Contract processing agreements are another option to get around the legal issues involved with sharing data. It does, however, not seem to be a feasible option in practical terms, as it carries a significant liability risk and costly contract negotiations and setup.

All panelists also agree on the fact that the proliferation of readily available user profiles on the web can no longer be stopped and that the upcoming demise of the tracking cookie might be offset by an increase in computing power and better machine learning algorithms. They see the possibilities that augmented user profiles might actually become more detailed than they are right now.

One other point of consideration could be the recent publication of Assessment Report #6 by the Intergovernmental Panel on Climate Change, which might affect our outlook on the future of online marketing, but we will leave that point open for now and concentrate on our resulting strategies instead.⁶⁴

The next and final chapter will offer a couple of strategies for personalized advertising and online marketing without relying on data gathered from tracking cookies. These designs are based on the recommendations from our experts above.

⁶⁴See von Juterczenka, J. (2021): Was im sechsten Weltklimarat-Sachstandsbericht steht [53]

5 Resulting Strategies

5.1 Use Your Own Data

All our panelists agree that working with our own first party data, is the best option in the future. This is especially true for **Gerrit**, who see working with first party data as a must for any serious marketeer in the online business. Or, as Tealium so succinctly put it, "In a World Without Third-Party Cookies, a First-Party Data Strategy Takes the Cake".⁶⁵

To work with our own data, we first need a data strategy, according to Mel Dixon of the Global Marketing Alliance.⁶⁶

The first step will always be to identify the business need, in this case, for our online marketing campaigns. We need to determine what we want to achieve, for example, increase sales or diversify our customer base, just to name a few. Once we have these goals defined, we need to identify all the data sources we already have and possibly add new ones through new tools for our web site or shop.

We do not want to go into too much detail on defining a data strategy here; however, there are two points that are quite pertinent for online marketing.

One is quite obvious but needs special consideration: To use data to improve our customer experience, we need to be able to identify our customers. Mere analytics will not be enough - even though analytics will tell us which part of our site performed well and why it will not tell us enough about the individual users.

Once we start identifying our customers, though, for example, through a login or through placing a non-functional first party cookie, we enter the realm of processing personally identifiable data. Handling PII in Europe is governed by GDPR/DS-GVO and additionally through the BDSG in Germany. This is a complex topic in itself and entirely out of scope for this paper.

To process PII, we need two things, among others: We need to ask for consent, and we need to have a data protection declaration.

Obtaining informed consent, as required by law, can be difficult, and **Roman** shared a very distinct view on how to obtain such permission. Similarly, a data protection declaration can also be quite challenging to craft; here's an example from Bluerope Consult that was created with support from WBS Law, for whom **Renate** was on our

⁶⁵ Tealium (2021): First Party Data Strategy Takes the Cake [51]

⁶⁶See Dixon, M. (2020): How to build a data strategy [14]

expert panel.

Once we have all this in place and can identify our customers, we can now plan our advertising and marketing strategies much better and tailor them precisely for each of our customers - we're delivering personalized advertising, without the use of third party data and completely within the boundary of the law.

There are also many other fun and creative things we can do with our own data, such as following up on a sale or a series, as shown in the following screenshot from a Netflix follow-up E-Mail:

Figure 5: Screenshot - Netflix Follow-Up E-Mail (Seraph of the End)



The screenshot above shows an example of a possible nudge that we can send to our customers to follow up on an abandoned sale or any other abandoned action when we can freely work with the data we have.

The other point that we need to make is that with the start of processing PII, the level of data protection and data security that we need to provide in IT immediately increases a lot. Processing PII will open up a whole new avenue of attack vectors and increase the number of potential threats, as outlined in NIST's Guide to Data-Centric System Threat Modeling.⁶⁷

Through rigorous scientific analysis, we have now identified the most promising strategy for online marketing in a cookie-less era. During our research, several other options emerged that we will now present, in no particular order.

5.2 Cooperate on Data

Working with second party data, the easiest way to use it would be through direct cooperation. If two parties were using similar customer identifiers, for example, the E-Mail address, the data could be easily combined.

Let's assume we have an online record shop and another online shop selling sheet music; combining their data would allow both shops to enrich their customer experience by offering better recommendations and offering supplemental things to buy, such as the sheet music for a recently purchased record, as an example.

Unfortunately, from a legal point of view, it's much more complicated than from a mere technical point of view. As **Roman** pointed out, we would need informed consent from all customers in both shops to combine the data, which could prove to be a task that's almost impossible to achieve, especially if the shops are separate legal entities altogether.

5.3 Use Data Clean Rooms

Another option to combine data would be through data clean rooms; Dylan Siriwardana of Adzine makes a passionate plea to consider data clean rooms as the strategic choice for the post-cookie era.⁶⁸

Unlike the more manual approach outlined previously, data clean rooms would offer a service to aggregate the data from different parties automatically and wholly anonymized. No PII processing would take place, and GPDR/DS-GVO would not apply.

To make such a system work, we would need very large data sets and apply machine learning techniques, such as federated learning and cohort building (similar to Google's

⁶⁷See Souppaya, M. (2016): Draft NIST Special Publication 800-154 [47]

⁶⁸See *Siriwardana*, *D. (2020)*: Data Clean Rooms als nützliches Werkzeug in der Post-Cookie-Ära [45]

FLoC) to correlate the data sets. The correlation would be much less precise than what we could archive from the direct combination. It would only allow us to establish a correlation at the level of people who like classical music might also be buying big sofas, for example.

The achieved personalization for the advertising might thus not be as high as we want, and the success of ad campaigns based on data clean room combination might be limited. However, time will tell; at the time of writing, there was not enough data and literature available to pass any form of judgment on the technology; especially **Gerrit** see a lot of potential in data clean rooms, though.

5.4 Cooperate Using Contract Processor Agreements

Suppose we want to work with any third party on personally identifiable data and avoid the legal hassle that comes with data sharing under GDPR/DS-GVO. In that case, we could use the legal instrument of a contract processor or subprocessor agreement. According to **Roman**, with such an agreement, we would legally incorporate the third party into our business (for the purpose at hand) and would no longer be sharing the data from a legal point of view.

The downside of such agreements, again according to **Roman**, would be that we would also take over responsibility and liability for the actions of our subprocessor; this might not be desirable for either party in some cases.

However, unlike data clean rooms, contract processor agreements are a well-established practice in IT and cover fields from Google Analytics and other Software-as-a-Service offerings all the way to complete IT outsourcing.

5.5 Stick to Contextual Advertising Only

As **Renate** pointed out, we are only in the realm of DS-GVO/GDPR once we actually process personally identifiable data - for placing personalized or targeted ads, that would mean that we (or an involved party) knows to whom the data is shown. Merely showing an advertisement on a web page for a user to view does not constitute processing PII and is not a privacy issue, as clarified by **Roman**.

So, if we do not look at the user's data, but only at the web site they visit, we're not invading the user's privacy; in cases where we also do not record their visits to the other page, of course. This would leave the option to place advertising by browsing context,

which is sadly not a widely available option. As an example, as an insurance company,we could be putting car insurance adverts on a car manufacturer's web page.

As long as we do not look at the users of the manufacturer's web page but only work with the users that click our ad and start interacting with our web page, we would be completely safe and working within the boundaries of first party data only.

On the other hand, in our example, if we were to analyze user behavior on the car manufacturer's web page, we would be in third party data territory and most likely violate the user's privacy and the legal provisions of GDPR/DS-GVO, as interesting as the data might be from a marketing point of view.

Like in the physical world or on linear TV, just showing ads on a web page is not a privacy issue; an issue could possibly be with the algorithm that selects which ad gets displayed, according to **Roman**.

5.6 Continue with Third Party User Profiles

Our last and final strategy to deal with the situation at hand could be to simply ignore the current discussions and to continue working with the available third party data.

As **Gerrit** mentioned, from their point of view, the deed is already done, and a lot of data is readily available on all users of the world wide web, up for the taking for advertising or other, more nefarious purposes. The loss of third party data from tracking cookies might not be a big issue for the data management companies, as **Gerrit** assume that big data applications and machine learning algorithms will be able to fill the void, most likely from all the data that our phones, fitness tracker and digital assistants constantly publish, together with our physical location.

This data could have been made available voluntarily, such as through the user's posts on social media or involuntarily. As we can surmise from a recent article by Joseph Cox on Vice there is most likely a lot more data on users available on the web than we might think.⁶⁹ To further protect our privacy from mobile apps and issues like the one pointed out above, the current privacy-by-design approach might not be good enough for mobile applications anymore, argues Dusty-Lee Donnelly of the University of KwaZulu-Natal.⁷⁰

For a person or company active on the world wide web - as a netizen, as **Gerrit** like to call it, it's quite important to guard oneself against the data proliferation on the web. There are many monitoring tools available, one of which is Mention, that **Gerrit**

⁶⁹See Cox, J. (2021): Google Bans Location Data Firm [10]

⁷⁰See *Donnelly*, *D. (2021)*: The privacy by design approach for mobile apps [16]

proposed during their lecture. Mention can regularly scrape the publicly available data and send alerts if necessary.

All our experts agree that even though the loss of the tracking cookie will affect the availability of third party data, it will itself remain an essential factor in online marketing for the foreseeable future.

Also, knowing which information is available on the web can greatly assist in maintaining and safeguarding one's online personae and presence. As third party data proliferates, this will become more and more important.

6 Summary

6.1 Targeting

With the demise of the ubiquitous tracking cookie, some other form of ID will evolve to support targeted or personalized advertising. It is crucial for the future of the advertising business to have some form of ability to show meaningful ads - it's advertising that powers the web.

Google FLoC is facing a lot of pushback, so we will most likely see a different method evolve over the next couple of months. It will be interesting to see how the various approaches grow and how in the end, we will see ads that matter being delivered to users.

There's a solid push to achieve a balance between the privacy needs of the users and the targeting needs of the advertisers. It is quite possible that new technology emerges that we have not seen so far - with the current technologies and the current legal framework, striking a compromise will be a difficult task and something that will keep marketeers busy for quite some time to come.

From our panelists' answers, we can see that relying on first party data is most likely a very promising strategy, as it fits nicely into the current and emerging legal frameworks. Possibly an institution will step up and regulate the use of second party data in clean rooms, but there's no indication yet that this will happen soon. On third party data, we can safely assume that the days of unfettered use are gone or will be gone soon. However, there is a possibility that machine learning algorithms will fill the void and that we're just at the beginning of a new data bonanza, with all the risks to user privacy that this might entail.

In addition, even though none of the panelists were focusing on contextual advertising, I still see contextual advertising as a very promising approach in delivering meaningful ads to users because we can do so while fully respecting the users' privacy.

Looking back at our research question from the beginning, we can conclude that working with our own first party data will be the best possible strategy in the future to place meaningful advertisements in a DS-GVO compliant way and without tracking cookies, both from a legal and a technical point of view.

6.2 Method

Given the volatile state of the subject in 2021, using a qualitative approach has proven very beneficial. Deviating from the classical course of categorization and employing a summative technique has also significantly contributed to the overall result and enabled us to work with a relatively small set of experts and still reach solid results.

The expert selection across a broad and diverse range of backgrounds has helped us achieve a well-rounded result; in summary, they shared a good overview of the current situation and showed us a number of possible paths forward.

The conclusions reached from the interviews were remarkably consistent and proved to be very helpful.

6.3 Outlook

We will see in 2022 or 2023 which direction targeted advertising will take; we can be sure, though, that it will remain an integral and vital part of the world wide web infrastructure.

A sentiment that all panelists shared was the considerable importance of first party data and its increasing role in the advertising industry - and a key takeaway for the future for all German marketeers is to become really familiar with the provisions and intricacies of the GDPR/DS-GVO and the BDSG.

Happy Advertising!

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